

2001 International Piping Plover Census

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U.S. Geological Survey

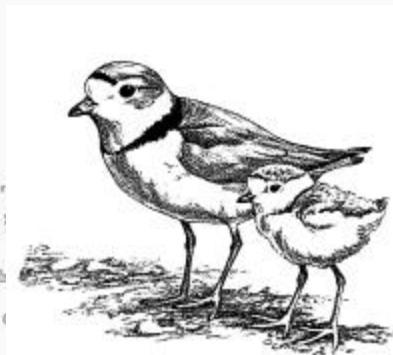
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This document should be cited as follows:

Ferland, C.L. and S.M. Haig. 2002. 2001 International Piping Plover Census.
U.S. Geological Survey, Forest and Rangeland Ecosystem Science Center,
Corvallis, Oregon. 293 pp.

DEDICATION

This report is dedicated to the memory of Wayne Harris. For over 20 years, Wayne dedicated himself to conservation of Piping Plovers in Saskatchewan. His untimely passing leaves an important gap that will be hard to fill. We will miss him.

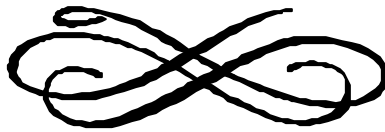


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Executive Summary

For the third time in 10 years, an International Piping Plover (*Charadrius melodus*) Breeding and Winter Census was conducted throughout the range of the species in 2001. In addition, for the first time, Snowy Plovers (*C. alexandrinus*), were censused as they occurred throughout the winter range of Piping Plovers. The census effort was coordinated via the International Piping Plover Coordination Group consisting of recovery coordinators in the major regions in which the birds occur: Atlantic Canada and U.S., Great Lakes Canada and U.S., Prairie Canada, U.S. Northern Great Plains, as well as Atlantic and Gulf winter regions. The goal of the International Census is to assess the current status and distribution of the species and, in conjunction with international censuses in 1996 and 1991, provide a measure of the success of recent recovery efforts for the species. Results also indicate areas in need of additional conservation measures and provide baseline data for population models at various spatial scales. Piping Plovers are listed as endangered in Canada and in the U.S. Great Lakes; they are considered threatened through the remainder of their U.S. range. Snowy Plovers are currently listed as threatened on the Pacific Coast.

The 2001 Census resulted from the efforts of nearly 1,400 biologists and volunteers from 32 U.S. States and Puerto Rico; 9 Canadian Provinces; St. Pierre and Miquelon, France; Cuba, and the Bahamas. Approximately 2,244 sites covering more than 11,836 km of shoreline habitat were surveyed during census periods in January/February and May/June, 2001. During the winter census, 2,389 Piping Plovers and 1,083 Snowy Plovers were counted; 33.5% of sites surveyed (N = 352) had Piping Plovers. Of these, 56.8% had 10 or fewer birds present. At sites where Snowy Plovers were surveyed, 25.9% (N = 255) contained Snowy Plovers and 51.5% of sites occupied contained less than 11 birds. The breeding census resulted in observation of 5,945 adults at 777 sites (N = 1,892). Over 80% of sites with Piping Plovers present had 10 or fewer birds.

Overall breeding census results indicated an 8.4% increase from 1991 estimates but only a 0.2% increase since 1996. Regional trends indicated that since 1991, the number of Piping Plovers increased on the Atlantic Coast by 78% (2,920 birds; 12.4% since 1996) and by 80% in the Great Lakes (72 birds; 50% since 1996); however estimates declined 15% (2,953 birds; 10% since 1996) in Prairie Canada and the U.S. Northern Great Plains. Subregional trends since 1991 reflect a 5.5% decline in Piping Plovers in Atlantic Canada (481 birds; 14% increase since 1996), a 66.2% increase in the U.S. Atlantic (2,430 birds; 12% since 1996), a 2.5% decline in the U.S. Northern Great Plains (1,981 birds; 24% increase since 1996) and a 32.4% decline in Prairie Canada (972 birds; 42.4% decline since 1996). Even in regions with apparent increases, results from specific states or provinces indicate significant declines. For example, since 1996, Piping Plovers have declined 32.7% in Quebec and 34.2% in North Carolina. Strikingly, every province in Prairie Canada has declined since both the 1991 and 1996 censuses.

Piping Plovers and Snowy Plovers were found in a variety of habitats in 2001. In winter, Piping Plovers were found primarily on islands (73.4%) and on mudflats (36.3%), sandy beaches (33.2%), and sand/salt flats (23.1%). Snowy Plovers were primarily found on islands (57.9%) and on sandy beaches (31.6%), sand/salt flats (21.4%), mudflats (21%), and gravel shores (13.3%). During breeding, Atlantic birds were primarily seen on barrier islands (39%), ocean fronts (37%), and bays (12%); Great Lakes birds occurred more often on mainland shorelines (61%) than on islands, and on sand (54%) and mud (23%); Great Plains/Prairie birds were found on alkali lakes (34%), reservoirs (31%), and rivers (20%).

Recent increases on the Atlantic Coast and Great Lakes appear to be the result of intensive management including extensive use of predator exclosures, nest monitors, captive rearing (on the Great Lakes), and predator control. While numbers were down in much of the U.S. Northern Great Plains, on the most significant breeding area, the Missouri River, numbers were up

460.4% since 1996 (1,048 birds; 67.7% since 1991). This increase was primarily due to unusually good habitat conditions from major flood events in 1996 and 1997 that scoured vegetation from breeding sites that had not been viable recently. However, the vegetation is now beginning to encroach again. The most significant decline occurred in Prairie Canada where both drought and flooding have rendered much of the habitat unusable. However, in some cases, birds did not use sites where habitat appeared viable. Prairie Canada birds may have temporarily dispersed to the unusually good habitat conditions on the Missouri River. However, as that habitat changes and their prairie habitat remains poor, the loss of birds to Prairie Canada may become permanent.

Overall, the International Piping Plover Census represents a remarkable example of international cooperation accomplishing a tremendous conservation need and is one of the most extensive endangered species census efforts in North America. Results of the Census represent the most comprehensive population estimate for a North American shorebird (N = 50 species) or any other widespread shorebird worldwide.

For further information regarding the 2001 census results, contact Susan Haig, USGS Forest and Rangeland Ecosystem Science Center, 3200 SW Jefferson Way, Corvallis, OR 97331, susan_haig@usgs.gov.



Résumé

En 2001, pour la troisième fois en dix ans, un recensement international d'hiver et un inventaire des sites de reproduction des Pluviers siffleurs (*Charadrius melodus*) ont été faits dans l'ensemble de l'aire de répartition de l'espèce. En outre, pour la première fois, les Pluviers neigeux (*C. alexandrinus*) ont été dénombrés en même temps dans l'aire hivernale des Pluviers siffleurs. Les efforts étaient coordonnés par l'International Piping Plover Coordination Group qui est composé de coordonnateurs postés dans les principales régions où vit l'espèce: sur la côte atlantique du Canada et des États-Unis, en bordure des Grands Lacs, au Canada et aux États-Unis, dans les Prairies Canadiennes, dans les grandes plaines du Nord des États-Unis ainsi que dans les sites d'hivernage de l'Atlantique et du golfe du Mexique. Le recensement international a pour but d'évaluer l'état actuel et la répartition de la population et, en comparant les résultats obtenus avec ceux des recensements internationaux de 1996 et 1991, de mesurer la réussite des récents efforts de rétablissement de l'espèce. Les résultats indiquent également quelles régions doivent appliquer des mesures additionnelles de conservation et fournissent des données de base pour les modèles de populations sur différentes échelles spatiales. Les Pluviers siffleurs sont considérés comme étant en danger de disparition au Canada et dans la région des Grands Lacs aux États-Unis; ils sont considérés comme étant menacés dans le reste de leur aire aux États-Unis.

Le recensement de 2001 a été fait par 1364 biologistes et bénévoles dans 32 États Américains et à Porto Rico, dans neuf provinces Canadiennes, à St-Pierre et Miquelon (France), à Cuba, dans les Bahamas et au Mexique. Environ 2244 sites totalisant plus de 11836 km d'habitats riverains ont été étudiés pendant les périodes de recensement de janvier et février, et de mai et juin 2001. Pendant le recensement d'hiver, 2389 Pluviers siffleurs et 1083 Pluviers neigeux ont été dénombrés; 33,5 % des sites étudiés (N = 352) comptaient des Pluviers siffleurs, mais dans

56,8 % de ce pourcentage, on n'a compté que 10 oiseaux ou moins. Le recensement des sites de reproduction a permis d'observer 5945 adultes dans 777 sites (1892 sites étudiés). Plus de 80 % des sites où des Pluviers siffleurs ont été observés comptaient 10 oiseaux ou moins. Dans l'ensemble, les résultats du recensement des sites de reproduction ont montré une augmentation de 8,4 % par rapport aux évaluations de 1991, mais de seulement 0,2 % depuis 1996. Les tendances régionales indiquent que, depuis 1991, sur la côte atlantique, le nombre de Pluviers siffleurs a augmenté de 78 % (2920 oiseaux; 12,4 % depuis 1996) et de 80 % dans la région des Grands Lacs (72 oiseaux; 50 % depuis 1996); cependant, les populations ont diminué de 15 % (2953 oiseaux; 10 % depuis 1996) dans les Prairies Canadiennes et dans les grandes plaines du Nord des États-Unis. Depuis 1991, les tendances sous-régionales montrent une diminution de 5,5 % dans le nombre des Pluviers siffleurs de la région atlantique du Canada (481 oiseaux; augmentation de 14 % depuis 1996), une hausse de 66,2 % dans la région atlantique des États-Unis (2430 oiseaux; 12 % depuis 1996), une diminution de 2,5 % dans les grandes plaines du Nord des États-Unis (1981 oiseaux; augmentation de 24 % depuis 1996) et une diminution de 32,4 % dans les Prairies Canadiennes (972 oiseaux; une baisse de 42,4 % depuis 1996). Même dans les régions où il semble y avoir des augmentations, si on étudie les données d'États ou de provinces en particulier, on constate des diminutions importantes. Par exemple, depuis 1996, le nombre des Pluviers siffleurs a diminué de 32,7 % au Québec et aux limites de l'aire dans la région atlantique des États-Unis: un déclin de 15,8 % dans le Maine et de 34,2 % en Caroline du Nord. Il est frappant de constater que toutes les provinces des Prairies Canadiennes ont enregistré une réduction depuis les recensements de 1991 et de 1996.

On a découvert des Pluviers siffleurs et des Pluviers neigeux dans divers habitats en 2001. L'hiver, les Pluviers siffleurs ont surtout été observés sur des îles (73,4 %) et dans des vasières (36,3 %), des plages sablonneuses (33,2 %) et des platins de sable/sel (23,1 %). Quant aux Pluviers neigeux on les a principalement observés sur des

îles (57,9 %) et sur des plages sablonneuses (31,6 %), des platins de sable/sel (21,4%), dans des vasières (21 %) et des plages de gravier (13,3%). Pendant la nidification, les oiseaux de la côte atlantique ont surtout été vus sur des îles-barrières (39 %), sur le bord de l'océan (37 %) et dans les baies (12 %); les oiseaux de la région des Grands Lacs ont été vus plus souvent sur les rives des lacs (61%) que sur les îles, sur le sable (54 %) et dans la boue (23 %); les oiseaux des grandes plaines ont été observés sur les rives des lacs natronés (34 %), des réservoirs (31 %) et des rivières (20 %).

Les récentes augmentations des populations de la côte atlantique et des Grands Lacs semblent résulter de mesures de gestion intensives comprenant l'exclusion des prédateurs, la surveillance des nids, l'élevage d'oiseaux captifs (Grands Lacs) et le contrôle des prédateurs. Tandis que les populations ont connu un déclin dans la majeure partie des grandes plaines du Nord des États-Unis, sur le site de reproduction le plus important, la rivière Missouri, les populations ont augmenté de 460,4% depuis 1996 (1048 oiseaux; 67,7 % depuis 1991). Cette augmentation est principalement attribuable à l'excellent état des sites de reproduction, à la suite d'une importante inondation survenue en 1996 qui a emporté la végétation et a laissé des sites de reproduction qui n'étaient pas utilisables auparavant. Cependant, la végétation recommence à envahir ces sites. Les diminutions les plus importantes ont été constatées dans les Prairies Canadiennes où se sont produites, à la fois, des

sécheresses et des inondations qui ont rendu la plupart des habitats inutilisables. Cependant, dans certains cas, les oiseaux ne nichaient pas dans des habitats qui semblaient propices. Les oiseaux des Prairies canadiennes peuvent s'être dispersés temporairement pour profiter des conditions favorables exceptionnelles des habitats de la rivière Missouri. Cependant, comme ces habitats changent et que les habitats canadiens restent en mauvais état, il se pourrait que les pertes enregistrées dans les prairies canadiennes deviennent permanentes.

Dans l'ensemble, le recensement international des Pluviers siffleurs est un exemple remarquable de coopération internationale répondant à un besoin de conservation criant; ce recensement est également l'un des plus complets effectués pour une espèce en danger de disparition en Amérique du Nord. Les résultats du recensement représentent les seules évaluations exactes de la population d'un oiseau de rivage en Amérique du Nord (N = 50 espèces) et sont l'une des rares évaluations complètes qui aient été faites dans le monde.

Pour de plus amples renseignements concernant les résultats du recensement de 2001, communiquer avec Susan Haig, USGS Forest and Rangeland Ecosystem Science Center, 3200 SW Jefferson Way, Corvallis, OR 97331, susan_haig@usgs.gov.

Resumen Ejecutivo

Por tercera ocasión en 10 años, en el 2001 se realizó un censo internacional de la cría e invernada del Chorlitejo picocorto (*Charadrius melodus*) en todo el área de repartición geográfica de la especie. Además, por primera vez, se elaboró un censo del Chorlitejo patinegro (*C. alexandrinus*) cuando estas aves se observaron en el área de repartición invernal del chorlo chiflador. La elaboración del censo se coordinó a través del Grupo Internacional de Coordinación para el Chorlo Chiflador, con la ayuda de coordinadores de recuperación en las principales zonas en las que existen las aves: región atlántica de Canadá y de Estados Unidos, los Grandes Lagos en Canadá y Estados Unidos, las Praderas canadienses, las Grandes Llanuras del norte de Estados Unidos, así como las regiones invernales del Atlántico y el Golfo de México. El objetivo del censo internacional es evaluar la situación y distribución actuales de la especie y, junto con los censos internacionales de 1996 y 1991, determinar el éxito de los esfuerzos emprendidos en fecha reciente para recuperar la especie. Los resultados muestran asimismo las áreas en las que deben adoptarse medidas de conservación adicionales y proporcionan información básica para elaborar modelos de población a distintas escalas espaciales. El Chorlitejo picocorto está clasificado como especie en peligro en Canadá y en los Grandes Lagos de Estados Unidos; asimismo se considera una especie amenazada en el resto de su área de repartición en Estados Unidos.

El censo de 2001 fue fruto del esfuerzo de 1364 biólogos y voluntarios de los 32 estados de los Estados Unidos y Puerto Rico; 9 provincias canadienses; San Pedro y Miquelón, Francia; Cuba, las Bahamas y México. Se hizo un seguimiento de aproximadamente 2244 estaciones de observación que cubrían más de 11836 km de hábitat costero durante los períodos de censo en enero/febrero y mayo/junio de 2001. Durante el censo invernal, se contabilizaron 2389 Chorlitejos picocortos y 1083 chorlos nevados; en 33,5 % de las estaciones de monitoreo (352) se observaron

Chorlitejos picocortos. De esas estaciones, 56,8 % tenían 10 aves o menos. El censo de cría permitió observar 5945 adultos en 777 estaciones (1892 estaciones monitoreadas). Más del 80 % de las estaciones con Chorlitejos picocortos tenían 10 aves o menos. En general, los resultados del censo de cría revelaron un ascenso en el número de aves del 8,4 % respecto a las cifras de 1991 y un incremento de tan sólo un 0,2 % desde 1996. Las tendencias regionales indicaron que desde 1991, el número de Chorlitejos picocortos aumentó en la Costa del Atlántico en un 78 % (2920 aves; 12,4 % desde 1996) y un 80 % en los Grandes Lagos (72 aves; 50 % desde 1996); sin embargo, el número de aves disminuyó en un 15 % (2953 aves; 10 % desde 1996) en las Praderas canadienses y en las Grandes Llanuras del norte de Estados Unidos. Las tendencias subregionales desde 1991 reflejaron un descenso del Chorlitejo picocorto del 5,5 % en la región atlántica de Canadá (481 aves; un aumento del 14 % desde 1996), un incremento del 66,2 % en la región atlántica de Estados Unidos (2430 aves; 12 % desde 1996), una disminución del 2,5 % en las Grandes Llanuras del norte de Estados Unidos (1981 aves; aumento del 24 % desde 1996) y una disminución del 32,4 % en las Praderas canadienses (972 aves; un descenso del 42,4 % desde 1996). Incluso en las regiones que presentaron un incremento considerable de la especie, ciertos estados o provincias mostraron importantes descensos. Por ejemplo, desde 1996, el número de Chorlitejos picocortos ha descendido en un 32,7 % en Quebec, mientras que en la periferia del área de repartición de la especie en la región atlántica de Estados Unidos se ha observado un descenso del 15,8 % en Maine y del 34,2 % en Carolina del Norte. Sorprendentemente, todas las provincias canadienses en la región de las Praderas mostraron una disminución de la especie con respecto a los censos de 1991 y 1996.

En el censo de 2001, se observaron los Chorlitejos picocortos y los Chorlitejos patinegro en una amplia gama de hábitat. En invierno, los Chorlitejos picocortos aparecieron principalmente en islas (73,4 %) y marismas (36,3 %), playas arenosas (33,2 %), y bancos de arena y salares

(23,1 %). Por su parte, los Chorlitejos patinegrosse observaron principalmente en islas (57,9 %) y playas arenosas (31,6 %), bancos de arena y salares (21,4 %), marismas (21 %), y costas de gravilla (13,3 %). Durante la época de cría, las aves en la región del Atlántico se observaron principalmente en cordones litorales (39 %), malecones (37 %) y bahías (12 %); las aves en la región de los Grandes Lagos aparecieron más a menudo en costas continentales (61 %) que en islas, en arena (54 %) y fango (23 %); las aves observadas en las regiones de las Grandes Llanuras y las Praderas estaban en lagos alcalinos (34 %), embalses (31 %) y ríos (20 %).

El ascenso que se ha podido observar en fecha reciente en la Costa del Atlántico y los Grandes Lagos parece ser fruto de las actividades de gestión intensiva, incluyendo el uso extensivo de cercados antidepredación, dispositivos de control de nidos, la cría en cautividad (en los Grandes Lagos) y la eliminación de depredadores. Si bien el número de aves descendió en gran parte de las Grandes Llanuras del norte de Estados Unidos, en el área de cría más importante, el río Misuri, el número de aves ascendió un 460,4 % desde 1996 (1048 aves; 67,7 % desde 1991). La razón principal de este incremento fueron las condiciones excepcionalmente buenas del hábitat después de una inundación ocurrida en 1996 que arrastró la vegetación de las áreas de cría, que no habían sido viables en fecha reciente. Sin embargo, la vegetación está volviendo a ocupar el lugar. Los descensos más importantes tuvieron

lugar en las Praderas canadienses, donde la sequía y las inundaciones han hecho que gran parte del hábitat sea inhabitable. No obstante, en algunos casos, las aves tampoco utilizaron áreas en las que el hábitat parecía viable. Es posible que las aves de las Praderas canadienses se hayan dispersado temporalmente a las condiciones excepcionalmente buenas del hábitat en el río Misuri. Sin embargo, en la medida en que ese hábitat cambie y las condiciones del hábitat de las Praderas sigan siendo malas, es posible que la pérdida de aves en las Praderas canadienses llegue a ser permanente.

En general, el censo internacional del Chorlitejo picocortorepresenta un ejemplo notable de cómo la cooperación internacional ha podido responder a una imperiosa necesidad de conservación, y se trata de uno de los esfuerzos más importantes en América del Norte en lo que a la elaboración de censos de especies en peligro se refiere. Los resultados del censo representan la única estimación precisa de la población de una de las aves costeras de América del Norte (donde existen 50 especies) y es también una de las sumamente escasas estimaciones completas de especies de aves costeras que existen en todo el mundo.

Para obtener más información sobre los resultados del censo de 2001, póngase en contacto con Susan Haig, USGS Forest and Rangeland Ecosystem Science Center, 3200 SW Jefferson Way, Corvallis, OR 97331, Estados Unidos; correo electrónico: susan_haig@usgs.gov

Acknowledgements

The International Piping Plover Census was originally designed by members of the former U.S. Fish and Wildlife Service Great Lakes/Northern Great Plains Piping Plover Recovery Team (Susan Haig, Ross Lock, Mark Ryan, John Sidle, Lee Pfannmuller, Ted Eubanks, Ed Pike, and Paul Goossen).

The 2001 International Census was carried out in collaboration with the International Piping Plover Coordination Group consisting of many of the founding census members: Susan Haig, (U.S. Geological Survey - Coordinator), Diane Amirault (Canadian Wildlife Service – Atlantic Canada), Paul Goossen (Canadian Wildlife Service – Prairie Canada), Anne Hecht (U.S. Fish and Wildlife Service – U.S. Atlantic), Nell McPhillips (U.S. Fish and Wildlife Service – U.S. Northern Great Plains), Jack Dingleline (U.S. Fish and Wildlife Service – Great Lakes), and Francesca Cuthbert (University of Minnesota – Great Lakes). Their contributions were instrumental in planning and carrying out the census and they deserve a wealth of recognition.

We commend the state, provincial, regional, and national coordinators for their efforts throughout the process and wish to thank the thousands of federal, state, provincial, and non-governmental biologists and other volunteers throughout North America (Appendix D), whose willingness to participate was the key to success of the census. We thank Pierre Laporte (CWS) for Spanish and French translations of the executive summary. We also thank Cheri Gratto-Trevor, Peter Paton, and Bruce Peterjohn for comments on earlier drafts of this report. Additionally, we are grateful to Julie Zickefoose for the artwork featured on the 2001 International Census logo, Tiffany Goodrich (Oregon State University) who patiently proofed data for hours on end, and Peter Sanzenbacher, Dylan Kesler, George Lienkaemper, and Ruth Jacobs (USGS FRESC) for advice on data, map, and report preparation.

Funding for the census was provided by the U.S. Fish and Wildlife Service (Patty Kelly, Nell McPhillips and T.J. Miller); U.S. Army Corps of Engineers (Casey Kruse); and the Missouri River Natural Resources Committee.



Overview:

Distribution and Abundance of Piping and Snowy Plovers in 2001.

Susan Haig, Cheron Ferland, Diane Amirault, Francesca Cuthbert, Jack Dingledine, Paul Goossen, Anne Hecht, and Nell McPhillips.

Although simple in concept, an entire species is rarely censused. For most species, this type of assessment is nearly impossible because of vast distributions, difficulties in observing all individuals, and lack of administrative support. Thus, when undertaken, species-wide censuses are typically carried out only on species with a limited distribution and during one phase of the annual cycle (e.g., Arlettaz 1990, Arlettaz et al. 1991 cited in Simberloff 1994; Mayfield 1992, Lewis 1995). Conversely, indices of distribution and abundance for wide-ranging species have been used for many years (e.g., point counts for neotropical migrant passerine birds, Robbins et al. 1986; surveys of Hawaiian forest birds, Scott et al. 1986; aerial surveys for waterfowl, Cowardin and Blohm 1992). While these indices provide useful information, problems associated with probabilistic sampling can occur and may produce spurious results (Anderson 2001). Thus, the benefits of collecting data as basic as the distribution and abundance of an entire species over time can be significant because assessments of change can be calculated at any scale. Initiating these assessments prior to the time a species reaches desperately low population levels only increases the chance of recovery as factors contributing to declines can be diagnosed and addressed.

One benefit of collecting comprehensive data is the ability to track the most vulnerable populations which might otherwise go unnoticed. That is, often the largest populations of a species are tracked while smaller

populations on the verge of extinction go unnoticed. While small populations may go extinct periodically (Hanski and Gilpin 1997), steady loss of a number of apparently insignificant populations can negatively affect overall (meta)population viability as factors related to the Allee effect begin to take a greater toll (Allee 1931, 1951; Allee et al. 1949, Courchamp et al. 1999, Stephens and Sutherland 1999). Tracking these populations and assessing current and future viability is even more difficult for species that already occupy ephemeral habitat where most populations are very small and local extinctions can be fairly common naturally.

For almost 20 years, intense efforts have focused on recovery of the threatened and endangered Piping Plover (*Charadrius melodus*). This species is endemic to North America and consists of two subspecies (AOU 1957, Haig 1992, Haig et al. in prep.): *C. m. melodus* inhabits Atlantic Coast beaches in Canada and the U.S. *C. m. circumcinctus* occurs on a diversity of beach-type habitats in the Great Lakes and west to Alberta and Colorado. In general, breeding birds are monogamous and provide bi-parental care of their four-egg clutch, although females may leave males to tend the precocial chicks (Haig and Oring 1988a). Clutches may be replaced if lost before hatch, but most pairs only raise one brood per year. Birds winter along U.S. Atlantic and Gulf coast beaches and sandflats as well as parts of eastern Mexico, the Bahamas, Cuba, and the Caribbean.

Piping Plovers are one of 50 North American breeding shorebird species and are the only extant shorebird listed as an entire species under the U.S. Endangered Species Act (U.S. Fish and Wildlife Service 1985; the only other extant U.S. listed shorebird is the Pacific coast population of Snowy Plovers, *C. alexandrinus nivosus*). It is one of three extant shorebirds listed in Canada (COSEWIC 2001). Species viability is threatened due to housing and recreation development, disturbance of their ephemeral beach habitat, nest flooding,

predation caused by increased human activities, and water management policies on rivers, lakes, and reservoirs (U.S. Fish and Wildlife Service 1988a,b, 1996; Haig 1992, Goossen et al. 2002). Listed as endangered in Canada (Haig 1985) and the U.S. Great Lakes, and threatened throughout the rest of its U.S. range (U.S. Fish and Wildlife Service 1985), current recovery efforts are facilitated through the International Piping Plover Coordination Group (IPPCG). This group consists of representatives from throughout the species breeding and winter range. Every five years since 1991, the IPPCG has facilitated a range wide census and habitat characterization of the species across all known suitable breeding and winter habitat. The goal of this effort is to monitor progress toward recovery goals, as well as determine and monitor changes in species distribution.

The first International Piping Plover Census in 1991 focused on determining the species distribution – particularly in the breeding season (Haig and Plissner 1993). The second census was carried out in 1996 and focused on improved delineation of the winter distribution as well as acquisition of breeding population estimates for viability modeling (Plissner and Haig 2000a,b; Mabee et al. 2001). The prime goal of the 2001 census was to describe long-term changes in population numbers and the species breeding distribution. In addition, for the first time, in 2001, Snowy Plovers (*C. alexandrinus*) were included in the winter census. In North America, Snowy Plovers winter along the Pacific Coast, Gulf of Mexico, and throughout the Caribbean and Bahamas (Page et al. 1995, Gorman and Haig 2002). Thus, their winter distribution does not completely overlap with Piping Plovers, but they were surveyed at sites where they co-occurred with wintering Piping Plovers on the Gulf of Mexico.

Methods

The 2001 International Piping Plover Census was conducted following the methodologies of the 1991 and 1996 censuses (Haig and Plissner 1993; Plissner and Haig 2000b) and was coordinated through a census coordinator (C.L. Ferland) and the IPPCG (S. Haig, D. Amirault, F. Cuthbert, J. Dingledine, P. Goossen, A. Hecht, and N. McPhillips). Census coordinators were further designated for all states, provinces, territories, and countries where Piping Plovers were known or presumed to breed or winter.

Censuses were conducted during two periods, corresponding to mid-winter and mid-breeding seasons. Multiple-counts of individuals were minimized by limiting survey efforts to a narrow time period when migratory and post-breeding movements were least likely. Confidence in lack of double-counting has been bolstered because no banded birds have been observed at two sites during the census. The winter census was conducted prior to the breeding census to allow intra-year comparisons without the confounding effects of young birds of the year. That is, if the winter census were carried out after the breeding census, results would be biased because first year birds would be counted in winter but not in summer as they would have been eggs or chicks. January 29 through 12 February 2001 was designated as the primary period for the winter census. The breeding portion of the census was conducted from 3-16 June 2001 for all regions except the U.S. Atlantic, which was completed from 26 May through 3 June. The U.S. Atlantic window occurred earlier than other regions to address concern that extreme high tides on the 4 June full moon would cause a misrepresentation of Piping Plover breeding pairs. During both censuses, a few surveys completed during the weeks immediately prior to or following census “windows” were also accepted if it was unlikely that birds were counted elsewhere.

Priorities for census coverage included all sites known to have supported Piping Plovers during or since the 1996 census and areas that were

known to have suitable habitat in 1996 (Plissner and Haig 1997) or later. Local observers were provided with standardized census guidelines and data forms and asked to conduct a single survey within the designated census period, providing an exact count of the number of adult Piping Plovers observed (Appendices A, B, and C). Emphasis was placed on avoiding censuses during extreme weather conditions and minimizing disturbance to birds. Observers were discouraged from searching for nests and young during the breeding census. Censuses designated areas surveyed on maps to facilitate identification of specific locations of Piping Plovers within a site and comparisons with past and future censuses. Sites were not uniformly defined and represented from 0.1 km to 197 km of shoreline. However, site names have been the same for all international censuses, thus equivalent assessments are made across years. Additional information requested included census time, weather and tidal conditions, general habitat characteristics, extent of area censused and identification of banded individuals (Appendix A).

The winter census was conducted along beaches, islands, and bays on the southeast Atlantic and Gulf coasts of the United States, Puerto Rico, and Cuba. Snowy Plovers were also counted within the states and countries where their winter range overlapped with the International Piping Plover Census (Florida, Alabama, Mississippi, Louisiana, Texas, Cuba, and Puerto Rico). Requests for reports of Piping Plover and Snowy Plover sightings were also sent to key individuals in the Bahamas, Bermuda, Jamaica, Dominican Republic, French West Indies, and Mexico.

The breeding census covered known and potential breeding areas along the Atlantic Coast from Newfoundland to South Carolina, shorelines of the Great Lakes, Lake-of-the-Woods in Minnesota and Ontario, and suitable wetlands, lakes, and rivers of the U.S. Northern Great Plains and Prairie Canada. Surveys were also conducted along Great Lake shorelines in Ohio, Illinois, Indiana, Pennsylvania, and New

York, focusing on sites within the historic range of the Great Lakes breeding population (U.S. Fish and Wildlife Service 1988b).

Breeding pair designation was defined according to Plissner and Haig (2000b) and unpaired birds were separated into those seen with nests or young and those observed without nests or young present. As in previous censuses, the number of paired birds were combined with the number of individuals seen with nests or young to derive figures corresponding to counts of "breeding pairs". This method is defined in the Atlantic Coast Piping Plover Recovery Plan (U.S. Fish and Wildlife Service 1996).

Winter data were summarized by state and/or country. Breeding data were summarized by country, state/province, and geographic region - Atlantic, Great Lakes, and Northern Great Plains/Prairies. Results of the 2001 Census were compared with data from 1996 and 1991 International Censuses. These comparisons reflect some minor corrections to the 1991 and 1996 census results discovered as this paper was prepared. Due to lack of consensus in the literature regarding an appropriate approach, population increases and declines are reported as simple percents and interpreted relative to their biological significance rather than using other procedures such as power analyses (Reed and Blaustein 1997).

Results

The 2001 International Piping Plover Census resulted from the efforts of over 1,364 biologists and volunteers from 32 U.S. States and Puerto Rico; 9 Canadian Provinces; St. Pierre and Miquelon, France; Cuba, and the Bahamas, spending well over 5,800 hours at approximately 2,244 sites surveying more than 11,836 km of shoreline habitat during census periods in January/February and May/June, 2001.

Winter Census

Piping Plovers--For the winter portion of the Piping Plover census, over 387 observers covered 352 sites across more than 3,142 km along the U.S. Atlantic and Gulf coasts, northern Cuba, Puerto Rico, and the Bahamas (Table 1). All major sites were censused in the U.S. and Puerto Rico with the exception of the Chandeleur Islands in Louisiana. Of sites surveyed, 33.5% ($n = 118$) contained Piping Plovers. Most sites with Piping Plovers (56.8%) contained 1-10 birds, 35.6% of plover sites had 11-50 birds, and less than 8% of plover sites had more than 50 birds. Among sites used by wintering Piping Plovers, 73.4% were found on islands, 15.8% were found on the mainland, 7.1% were found on sandbars, and the remaining birds were unspecified. When

habitats were specified within sites, 36.3% of birds were seen on mudflats, 33.2% on sandy beaches, 23.1% on sand/salt flats, 2.8% on algal mats, 1% on oyster reefs, and 0.1% on gravel shores.

Overall, 2,389 wintering Piping Plovers were located (Table 1, Figure 1), representing 40.2% of birds detected during the breeding census ($n = 5,945$). A majority (43.6%) were found in Texas. In fact, 25.2% of all birds observed in the winter census were found on South Padre Island (Cameron County), Texas. Comparison among results from the three international census years illustrates where survey efforts have changed over time, but it is not an effective indication of population trends because a large portion (35-60%) of the overall breeding population is not accounted for in the winter census (Table 2).

Table 1. Distribution and abundance of wintering Piping Plovers (PIPL) in 2001.

State/Country	No. of PIPL	% all birds censused	Sites surveyed	Km surveyed ^a	Participants ^a	Coordinator
North Carolina	87	3.6	39	330	43	D. Allen
South Carolina	78	3.3	32	146	5	T. Murphy
Georgia	111	4.6	16	155	71	B. Winn
Florida	416	17.4	122	900	162	P. Kelly/B. Brooks
Atlantic	111	4.6	34	242	n/a ^b	
Gulf	305	12.8	88	658	n/a ^b	
Alabama	30	1.3	13	47	10	R. Clay
Mississippi	18	0.8	12	167	9	M. Woodrey
Louisiana	511	21.4	26	202	23	S. Shively
Texas	1042	43.6	50	1075	53	P. Glass/R. Cobb/J. Rupert
Puerto Rico	6	0.3	5	15	3	S. Earsom
Cuba	55	2.3	29	105	8	F. Shaffer
Bahamas	35	1.5	8	n.r. ^c	n.r. ^c	
GRAND TOTAL	2389	n/a ^b	352	3142	387	

^a Numbers reported serve as minimum estimates. Not all censusers included this information

^b n/a = Not applicable

^c n.r. = Not reported

2001 International Piping Plover Winter Census

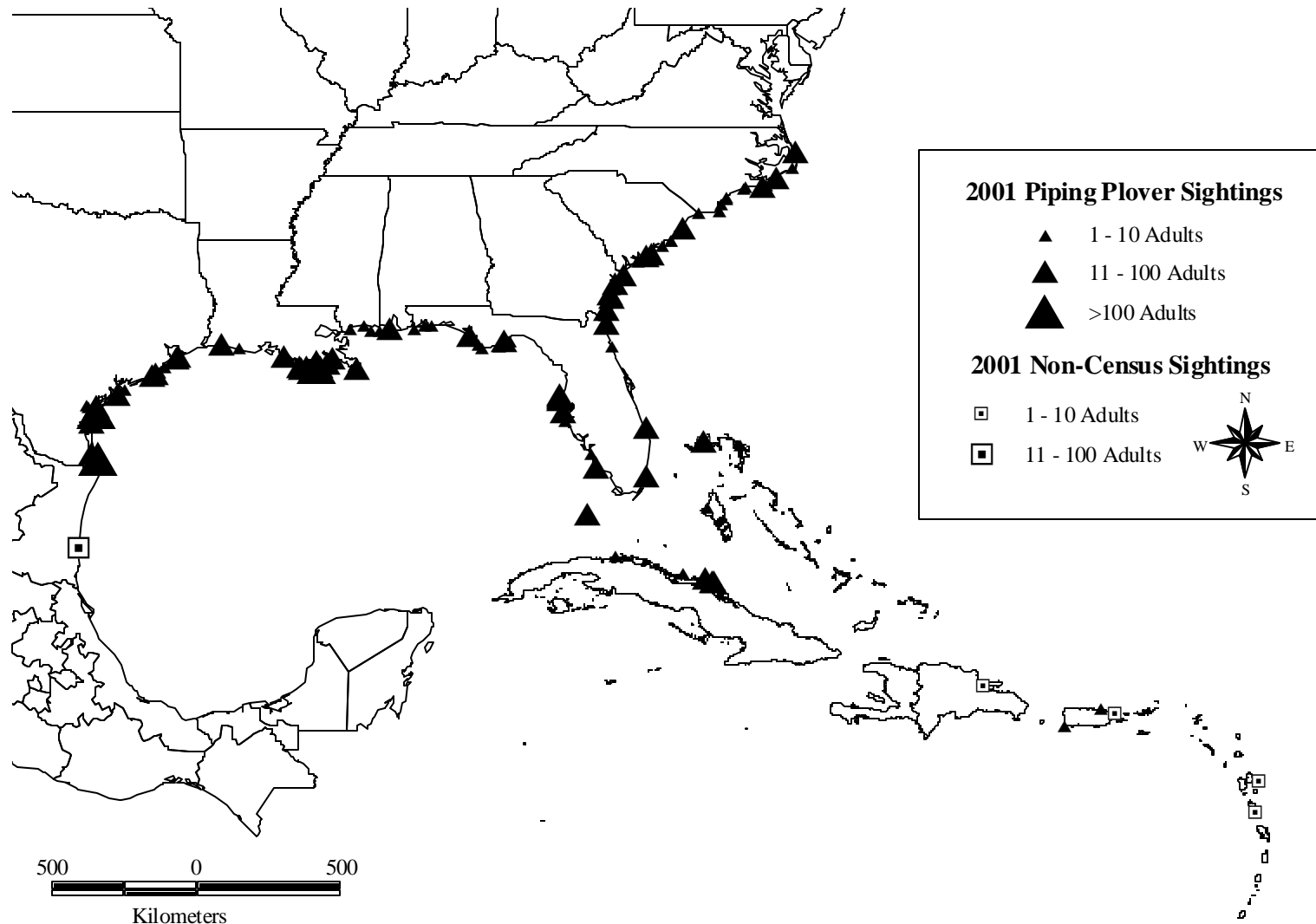


Table 2. Number of Piping Plovers detected during International Winter Censuses in 1991, 1996, and 2001. Winter census effort.

State/Country	1991			1996			2001		
	PIPL	Sites	Km	PIPL	Sites	Km	PIPL	Sites	Km
North Carolina	20	32	408	50	32	456	87	39	330
South Carolina	51	27	40	78	25	117	78	32	146
Georgia	37	14	156	124	14	145	111	16	155
Florida	551	125	1,194	375	112	860	416	122	900
<i>Atlantic</i>	70	59	627	31	51	444	111	34	242
<i>Gulf</i>	481	66	567	344	61	416	305	88	658
Alabama	12	6	50	31	2	8	30	13	47
Mississippi	59	13	123	27	15	224	18	12	167
Louisiana	750	29	280	398	31	226	511	26	202
Texas	1,904	83	1,597	1,333	85	1,146	1,042	50	1,075
Puerto Rico	0	5	13	0	3	16	6	5	15
Mexico	27	n.s. ^a	284	16	2	23	n.s. ^a		
Cuba	11	2	24	66	10	107	55	29	105
Bahamas	29	1	2	17	10	n.r. ^b	35	8	n.r. ^b
GRAND TOTAL	3,451	357	4,187	2,515	341	3,327	2,389	352	3,142
% of Breeding Census	62.9			42.4			40.2		

^an.s. = not surveyed, ^bn.r. = not reported.

Winter recoveries ($n = 26$) of birds banded in previous summers demonstrate that Piping Plovers from the same breeding sites, as well as different regions, occur at the same winter sites. For example, birds banded in Michigan were observed in North Carolina (1), South Carolina (2), Georgia (6), and the Gulf and Atlantic coasts of Florida (7; J. Stucker, F. Cuthbert, pers. comm.). Single birds from Newfoundland and Nova Scotia (D. Amirault, pers. comm.) were also seen on the Atlantic coast of Florida at the same site (Little Talbot Island State Park) as three of the birds from Michigan. One South Dakota bird (R. Niver, pers. comm.) was seen on the Gulf coast of Florida at the same site (Big Marco Pass Shoal) as one of the Michigan birds. Three birds from Québec were seen in South Carolina; two of the three were at the same location (Huntington Beach, SC; P. Laporte, F. Shaffer, pers. comm.). One Québec bird was observed in Cuba (P. Laporte, F. Shaffer, pers. comm.).

Snowy Plovers – In the first systematic survey of wintering southeastern Snowy Plovers, 268 censusers covered more than 2,511 km on 255 sites and identified 1,083 Snowy Plovers (Table 3). Birds occurred throughout the Gulf of Mexico and at various sites in Cuba and Puerto Rico (Figure 2). Among sites surveyed, 25.9% contained Snowy Plovers. Most sites with Snowy Plovers (93.9%) had 50 or fewer birds; 51.5% had 1-10 birds, while 42.4% had 11-50 birds. Similar to Piping Plovers, most Snowy Plovers (63.7%) were seen along the Texas coast. There was another large concentration in Florida (28.7%). The site with the greatest number of Snowy Plovers was East Lake, Texas where 144 adults were seen. Most birds were seen on islands (57.9%) compared with the mainland (34.4%). Among sites where birds occurred, 31.6% were observed on sandy beaches, 21.4% on sand/salt flats, 21% on mudflats, 13.3% on gravel shores, 7.1% on algal mats, and 0.03% on oyster reefs.

2001 International Snowy Plover Winter Census

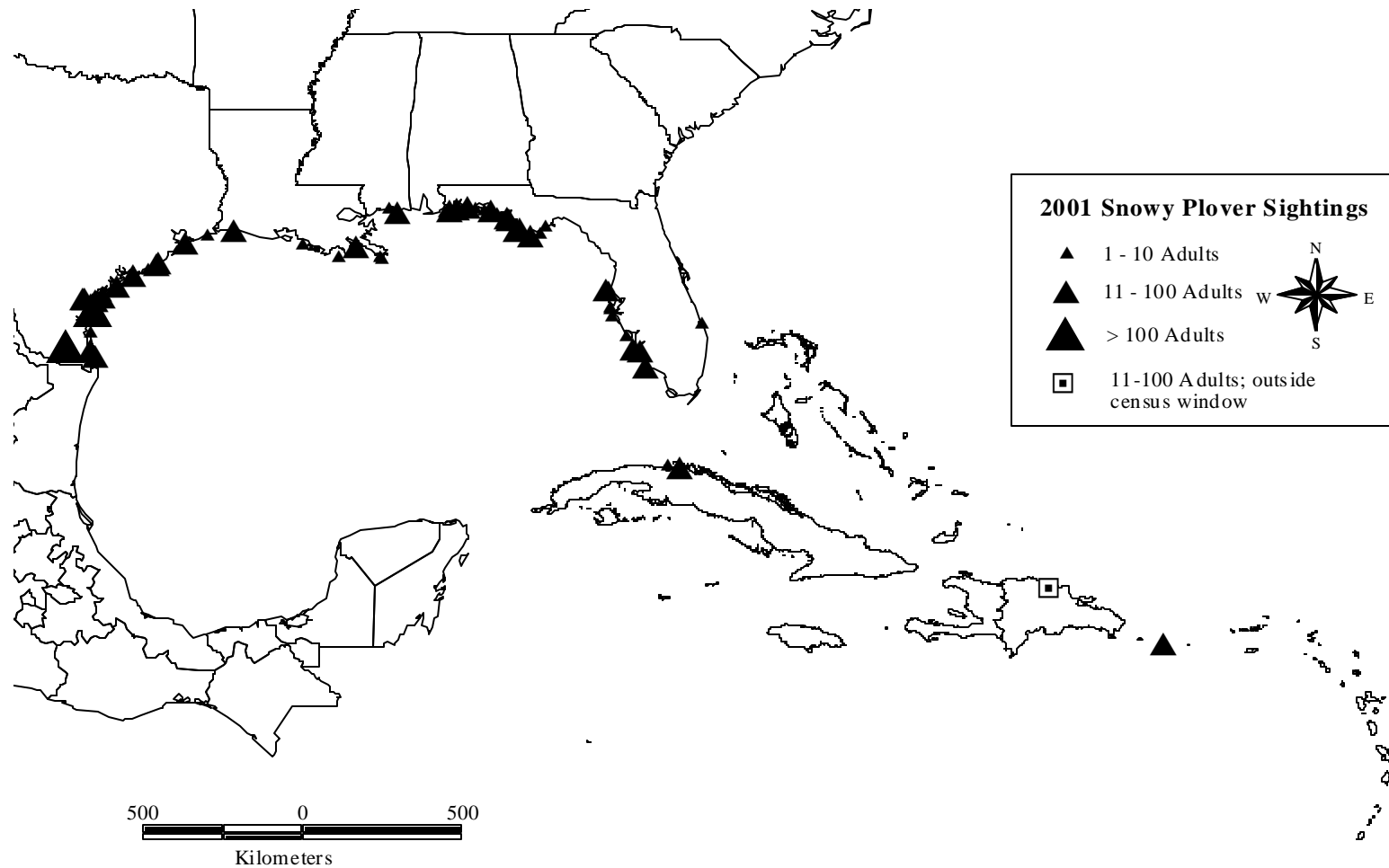


Table 3. Distribution and abundance of wintering Snowy Plovers (SNPL) on the Gulf of Mexico, Puerto Rico, and Cuba in 2001.

State/Country	SNPL	% of census	Sites surveyed	Km surveyed	Participants
Florida	311	28.7	122	900	162
Alabama	0	0.0	13	47	10
Mississippi	13	1.2	12	167	9
Louisiana	36	3.3	26	202	23
Texas	690	63.7	50	1075	53
Cuba	16	1.5	29	105	8
Puerto Rico	17	1.6	3	15	3
GRAND TOTAL	1083		255	2511	268

Breeding Census

The 2001 International Piping Plover Breeding Census was carried out over more than 4,388 hours by nearly 1,000 censusers across more than 2,098 km of Atlantic coastline, 361 km of Great Lakes shore, 174 km of Missouri River habitat, and 6,061 km of freshwater lakes, rivers, and wetlands in the Prairies and Northern Great Plains (Table 4, Figure 3). Adults were present on 41.1% of sites ($n = 1,892$) surveyed that had suitable habitat and/or a recent history of Piping Plover breeding. Breeding sites were primarily characterized by low numbers: 80.7% had less than 11 birds, 18% had 11-50 birds, and less than 2% had more than 50 Piping Plovers.

During the census period, 5,945 adult Piping Plovers, including an estimated 2,747 breeding pairs, were observed in 21/26 U.S. states surveyed, nine Canadian provinces, and the French territories of St. Pierre and Miquelon (Table 4). Across the breeding range, 49.7% of birds (2,953 individuals/1,291 pairs) were reported from the U.S. Northern Great Plains and Prairie Canada region, 49.1% (2,920 individuals/1,427 pairs) were observed along the Atlantic Coast, and 1.2% (72 individuals/29 pairs) were reported from the Great Lakes.

The overall abundance of Piping Plovers has increased 8.4% since 1991, but only 0.2% since 1996 (Table 5). The distribution of Piping

Plovers has shifted since the 1991 Census with the U.S. Atlantic comprising an increasingly greater portion of the species as birds recover in that region and decline in the Northern Great Plains/Prairie region (Figure 4).

Prairie Canada/U.S. Northern Great Plains --

In this region, 2,953 Piping Plovers were counted by over 414 censusers across more than 6,235 kilometers of habitat (Table 5). Northern Great Plains/Prairie Canada birds were found on alkali lakes (34.3%), reservoirs (31.3%), rivers (19.7%), freshwater lakes (7.6%), dry alkali lakes (2.4%), sandpits (2.3%), industrial ponds (0.4%), and gravel mines (0.1%). Results indicate that the greatest regional decrease and local increase occurred in this region (Table 5). The decline in Piping Plovers in Prairie Canada ranged from 32.4% since 1991 to 42.4% since 1996. Every western Canadian province experienced a substantial decline since 1991 and 1996. Conversely, numbers on the U.S. Northern Great Plains declined 2.5% since 1991 but increased 23.9% since 1996. The increase is attributed to extremely high numbers on the Missouri River in North Dakota, South Dakota, Montana, and Nebraska. In most other parts of the Northern Great Plains, Piping Plovers declined. For example, birds in the extreme U.S. western (Montana) and eastern (Lake of the Woods, MN) edges of the Northern Great Plains population declined. When Missouri River numbers are

Table 4. Census effort and coverage for the 2001 International Piping Plover Breeding Census.

State/Province	Adults	% of census	% of region	Breeding pairs	Sites surveyed ^a	Linear kms surveyed ^b	Participants ^b	Coordinator
Northern Great Plains/Prairies	2953	49.7	n/a ^c	1291	958	6235	414	
Prairie Canada	972	16.3	32.9	392	424	3506	240	
Alberta	150	2.5	5.1	72	115	905	66	D. Prescott
Saskatchewan	805	13.5	27.3	313	282	2552	165	L. Dunlop
Manitoba	16	0.3	0.5	7	23	37	7	K. De Smet
Ontario (Lake of the Woods)	1	0.0	0.0	0	4	12	2	L. Heyens/S. Jones
U.S. Northern Great Plains	1981	33.3	67.1	899	534	2729	174	
Minnesota	7	0.1	0.2	3	4	10	2	K. Haws
Montana	137	2.3	4.6	57	64	431	21	L. Hanebury
Montana (Missouri River)	7 ^e	n/a ^c	n/a ^c	3 ^e	3 ^e	1 ^e	n/a ^c	
North Dakota	1112	18.7	37.7	522	246	902	51	K. Kreil
North Dakota (Missouri River)	643 ^e	n/a ^c	n/a ^c	298 ^e	116 ^e	36 ^e	n/a ^c	
South Dakota	390	6.6	13.2	172	77	178	22	N. McPhillips
South Dakota (Missouri River)	390 ^e	n/a ^c	n/a ^c	172 ^e	67 ^e	136 ^e	n/a ^c	
Nebraska	308	5.2	10.4	133	117	1081	44	J. Dinan
Nebraska (Missouri River)	8 ^e	n/a ^c	n/a ^c	3 ^e	3 ^e	1 ^e	n/a ^c	
Missouri River (MT, ND, SD, NE)	1048 ^e	17.6 ^e	35.5 ^e	476 ^e	189 ^e	174 ^e	28	K. Cruse/G. Pavelka
Iowa	11	0.2	0.4	5	2	2	2	D. Howell
Kansas	3	0.1	0.1	2	1	2	3	D. Mulhern
Colorado	13	0.2	0.4	5	23	123	1	J. Yost/D. Nelson
Great Lakes	72	1.2	n/a ^c	29	108	361	71	
Canada (Ontario)	1	0.0	1.4	0	33	114	18	L. Heyens/S. Jones
United States	71	1.2	98.6	29	75	247	53	
Michigan	65	1.1	90.3	27	58	166	24	J. Dingleline
Wisconsin	6	0.1	8.3	2	8	29	16	J. Trick
IL/IN/OH/PA/NY	0	0.0	0.0	0	9	52	13	J. Dingleline
Atlantic	2920	49.1	n/a ^c	1427	826	2098	492	
St. Pierre and Miquelon (France)	9	0.2	0.3	4	4	20	3	R. Etcheberry
Atlantic Canada	481	8.1	16.5	240	350	936	206	
Newfoundland	39	0.7	1.3	23	39	73	26	J. Brazil
Quebec	70	1.2	2.4	35	40	213	39	F. Shaffer
Prince Edward Island	112	1.9	3.8	54	87	188	59	J. Waddell
New Brunswick	167	2.8	5.7	83	66	303	39	D. Amirault
Nova Scotia	93	1.6	3.2	45	118	159	43	P. Mills/A. Bond
U.S. Atlantic	2430	40.9	83.2	1183	472	1142	283	
Maine	96	1.6	3.3	48	32	48	19	J. Jones
New Hampshire	14	0.2	0.5	7	2	2	5	C. Dudley
Massachusetts	962	16.2	32.9	481	161	n.r. ^d	105	S. Melvin
Rhode Island	93	1.6	3.2	46	19	28	7	C. Raithel
Connecticut	45	0.8	1.5	23	27	25	6	J. Victoria
New York	624	10.5	21.4	309	119	311	29	M. Gibbons
New Jersey	228	3.8	7.8	109	44	127	36	D. Jenkins/T. Pover
Delaware	10	0.2	0.3	5	13	34	2	A. Doolittle
Maryland	112	1.9	3.8	28	3	46	10	D. Brinker
Virginia	198	3.3	6.8	106	23	194	26	R. Boettcher
North Carolina	48	0.8	1.6	21	28	327	37	D. Allen
South Carolina	0	0.0	0.0	0	1	n.r. ^d	1	T. Murphy
Totals								
U.S.	4482	75.4	n/a ^c	2111	1081	4118	510	
Canada	1454	24.5	n/a ^c	632	807	4556	464	
France	9	0.2	n/a ^c	4	4	20	3	
GRAND TOTAL	5945	n/a ^c	n/a ^c	2747	1892	8694	977	

^a 52 additional sites were not officially ground surveyed due to lack of habitat and/or access.^b Numbers reported serve as minimum estimates. Not all censusers included this information..^c n/a = Not applicable^d n.r. = Not reported^e Subtotals for reference only. Missouri River results by state are included in state results.

2001 International Piping Plover Breeding Census

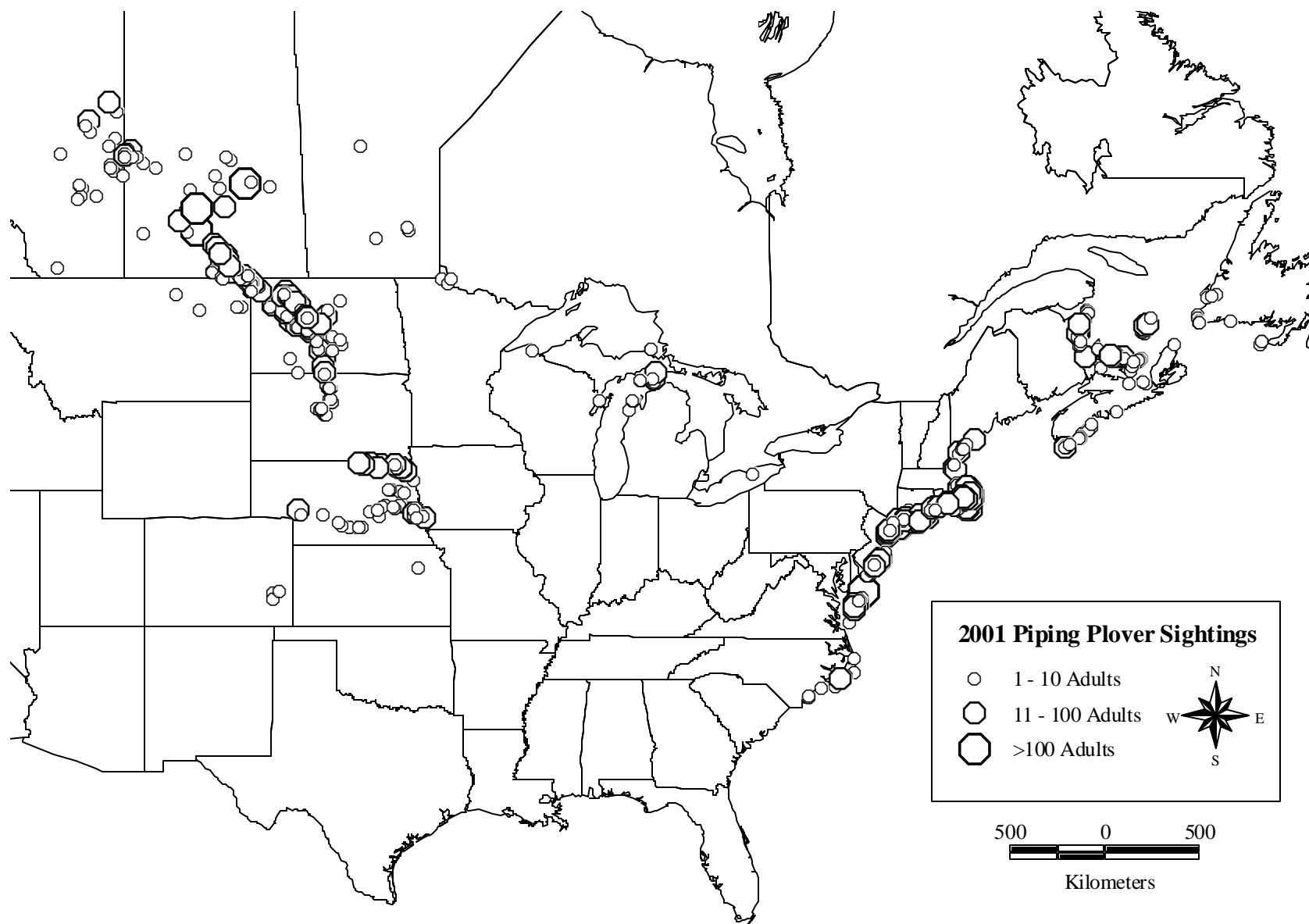


Table 5. Comparison of the 1991, 1996, and 2001 International Piping Plover Breeding Censuses.

State/Province	1991 adults	1996 adults	2001 adults	% Change (1991-2001)	% Change (1996-2001)
Northern Great Plains/Prairies	3469	3286	2953	-14.9	-10.1
Prairie Canada	1437	1687	972	-32.4	-42.4
Alberta	180	276	150	-16.7	-45.7
Saskatchewan	1172	1348	805	-31.3	-40.3
Manitoba	80	60	16	-80.0	-73.3
Ontario	5	3	1	-80.0	-66.7
U.S. Northern Great Plains	2032	1599	1981	-2.5	23.9
Minnesota	13	10	7	-46.2	-30.0
Montana	308	153	137	-55.5	-10.5
Montana (Missouri River)	26 ^e	24 ^e	7 ^e	n/a ^b	n/a ^b
North Dakota	992	1004	1112	12.1	10.8
North Dakota (Missouri River)	307 ^e	125 ^e	643 ^e	n/a ^b	n/a ^b
South Dakota	295	29	390	32.2	1244.8
South Dakota (Missouri River)	292 ^{ef}	29 ^{eg}	390 ^e	n/a ^b	n/a ^b
Nebraska	398	375	308	-22.6	-17.9
Nebraska (Missouri River)	0 ^e	9 ^e	8 ^e	n/a ^b	n/a ^b
Missouri River (MT, ND, SD, NE)	625 ^e	187 ^e	1048 ^e	67.7	460.4
Iowa	13	14	11	-15.4	-21.4
Kansas	0	1	3	300.0	200.0
Colorado	13	13	13	0.0	0.0
Oklahoma	0	n.s. ^a	n.s. ^a	n/a ^b	n/a ^b
Great Lakes	40	48	72	80.0	50.0
Canada (Ontario)	0	1	1	100.0	0.0
United States	40	47	71	77.5	51.1
Michigan	39	47	65	66.7	38.3
Wisconsin	1	0	6	500.0	600.0
IL/IN/OH/PA/NY	n.s. ^a	n.s. ^a	0	n/a ^b	n/a ^b
Atlantic	1645	2597	2920	77.5	12.4
St. Pierre and Miquelon (France)	4	6	9	125.0	50.0
Atlantic Canada	509	422	481	-5.5	14.0
Newfoundland	7	27	39	457.1	44.4
Quebec	76	104	70	-7.9	-32.7
Prince Edward Island	110	66	112	1.8	69.7
New Brunswick	203	146	167	-17.7	14.4
Nova Scotia	113	79	93	-17.7	17.7
U.S. Atlantic	1462	2169	2430	66.2	12.0
Maine	38	114	96	152.6	-15.8
New Hampshire	n.s. ^a	n.s. ^a	14	n/a ^b	n/a ^b
Massachusetts	293	877	962	228.3	9.7
Rhode Island	47	91	93	97.9	2.2
Connecticut	67	42	45	-32.8	7.1
New York	334 ^c	493	624	86.8	26.6
New Jersey	280	225 ^d	228	-18.6	1.3
Delaware	10	8	10	0.0	25.0
Maryland	35	91	112	220.0	23.1
Virginia	270	155	198	-26.7	27.7
North Carolina	86	73	48	-44.2	-34.2
South Carolina	2	0	0	-100.0	0.0
Totals					
U.S.	3534	3815	4482	26.8	17.5
Canada	1946	2110	1454	-25.3	-31.1
France	4	6	9	125.0	50.0
GRAND TOTAL	5484	5931	5945	8.4	0.2

^a n.s. = Not surveyed^b n/a = Not applicable^c Adjusted 1991 New York tally due to error in original published data. (Originally reported – 338; Revised No. – 334)^d Adjusted 1996 New Jersey tally due to error in original data submitted. (Originally reported – 209; Revised No. – 225)^e Subtotals for reference only. Missouri River results by state are included in state results.^f Adjusted 1991 South Dakota tally due to error in original data submitted. (Originally reported – 290; Revised No. – 292)^g Adjusted 1996 South Dakota tally due to error in original data submitted. (Originally reported – 27; Revised No. – 29)

subtracted from totals in North Dakota, birds declined on the alkali lakes by 31.5% over the past 5 years; they declined 46.6% since 1991.

Great Lakes -- Piping Plovers have almost doubled their numbers along the Great Lakes since 1991 (Table 5). This increase occurred primarily in northern Michigan, although a small number of birds has recolonized in northern Wisconsin on Lake Superior, in eastern Wisconsin on Lake Michigan, and one bird was observed in southern Ontario on Lake Erie. Two birds banded in Michigan dispersed to Wisconsin to breed (F. Cuthbert, J. Stucker, pers. comm.). More than 70 censusers counted 72 adults (29 breeding pairs) across 361 kilometers of habitat (Table 4). Piping Plovers were not seen in their former Great Lakes range on the New York side of Lake Ontario, Lake Erie (Ohio), Lake Huron (Michigan), or southern and western Lake Michigan (Indiana and Illinois). Great Lakes birds occurred primarily on mainland lakeshores (61.3%) and in substrates of sand (54.5%), mud (23.2%), gravel (8.0%), or vegetation (6.2%).

Atlantic Coast -- Along the Atlantic Coast, 2,920 Piping Plovers comprising 1,427 breeding pairs were observed by nearly 500 censusers surveying more than 2098 km (Table 4). Overall, the Atlantic population (i.e., subspecies *C. m. melodus*) increased by 77.5% since 1991 and 12.4% since 1996 (Table 5). This increase primarily occurred in the U.S. as Eastern Canada numbers are down 5.5% since 1991 and only increased 14% since 1996. In the U.S., Piping Plovers increased 66.2% since 1991 and 12.0% since 1996. Much of this increase occurred in New York and Massachusetts. These states harbor a large percent of Atlantic Coast birds and are areas where bird numbers have nearly doubled and tripled, respectively, over the past 10 years. Similar percent increases have occurred in Maine and Rhode Island, although progress since 1996 has not been as good. Conversely, Piping Plovers declined in North Carolina at the southern end of the species range. Across the region, birds were primarily seen on barrier islands (39.2%),

ocean fronts (37.1%), and bays (11.6%), but also occurred on sand bars (2.2%), spoil islands (1.4%), tidal creeks/marshes (1.2%), peninsulas (1.0%), reservoirs (0.2%), a brackish lake (0.1%), rivers (0.1%) and industrial ponds (<0.1%).

Discussion

Winter Census

The International Piping Plover Winter Census remains the only consistent winter survey effort for Piping Plovers at any scale. The results are helpful in identifying specific sites of concern and overall patterns of Piping Plover density and distribution across the U.S. in winter. The winter census is organized as a stand-alone survey each time it is carried out and therefore is not added to on-going activities as occurs with the breeding census. Thus, it requires significant effort to cover known sites in the U.S.; exploration of areas outside the country is rarely possible. This is unfortunate because each International Winter Census identifies less than 65% of breeding birds and the winter range of the species has yet to be clearly identified. In future years, it will remain essential to try to garner support for comprehensive surveys on the Laguna Madre de Tamaulipas and associated beaches in Mexico as has been attempted in the past (Haig and Oring 1985, Mabee et al. 2001). Additional surveys in Cuba, the Bahamas, and Caribbean will be helpful as well. Recent work in Cuba resulted in an increased number of Piping Plovers on the north coast (F. Shaffer, P. Laporte, pers. comm.). However, recent shorebird surveys in the Dominican Republic and Jamaica did not yield any observations of Piping Plovers (J. Collazo, pers. comm.; A. Sutton, pers. comm.).

Because tidal conditions can significantly alter results, timing of the winter census window is an important issue. Extremely low tides, often prevalent in Texas in January, expose vast expanses of sand and mudflats that are

extremely difficult to access. These areas provide habitat for most of the known wintering Piping Plovers, hence miscounting them is a significant error. In 2001, we altered the census window by one week to mitigate this problem, but high winds created prolonged poor habitat conditions that made surveying difficult because birds may have moved to other (inland) habitat. In addition, weather conditions also prohibited censusing of the Chandeleur Islands in Louisiana. These islands held a large number ($n = 87-131$) of Piping Plovers in the past (Haig and Plissner 1993, Plissner and Haig 2000b) and should be a focus of future efforts. Therefore, for several reasons it is not possible to draw conclusions regarding population trends from the winter census data across years.

One benefit of the winter census was the opportunity to look for birds banded during previous breeding seasons to document potential breeding populations mixing and winter site fidelity. While there are few extensive, on-going banding programs in breeding areas, results ($n = 118$ birds) from all three International Censuses as well as Haig and Oring (1988b) suggest that most Prairie birds winter in the Gulf and most Atlantic birds are seen further south on the Atlantic Coast or the Caribbean. Some crossing over into the Gulf or Atlantic occurs: among 73 resights of Prairie Canada/Northern Great Plains birds in winter, four were seen on the Atlantic Coast, four were seen in the Florida Keys, and the remaining birds were seen in the Gulf of Mexico, primarily ($n = 27$) in Texas. Most birds from Michigan ($n = 19$) were observed in the Florida Keys, Georgia, South Carolina, and North Carolina, although one was seen in Texas and several were discovered on the Gulf coast of Florida. This pattern was substantiated by Wemmer (2000). Atlantic birds ($n = 26$) were primarily observed on the Atlantic Coast and Cuba, although three birds from Massachusetts were observed in Texas.

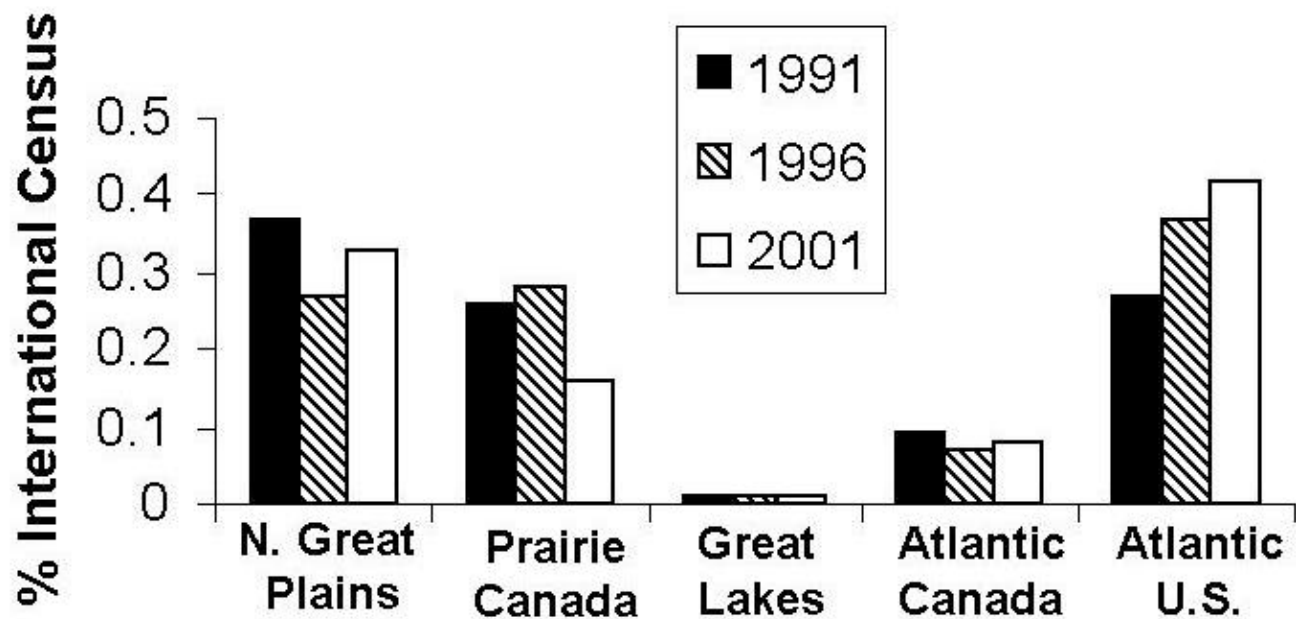
Resighting birds in winter provides significance to sites and is one indication that many winter sites provide habitat to birds from different

breeding populations. For example, specific sites (e.g., Bolivar, TX; Honeymoon Island, FL; Huntington Beach, SC) tend to be used year after year by Piping Plovers from multiple breeding regions. Recent estimates of Piping Plover winter space use further suggest that they have small home ranges and are site faithful (Drake et al. 2001). Together, these winter behavior patterns indicate the great importance of specific winter sites for individual plovers and suggest degradation of these areas may critically effect population recovery.

Another significant result of the winter census is further confirmation from previous International Censuses that sand/mud/salt flats are a preferred habitat for Piping Plovers. Drake et al. (2001) also found algal mats to be a preferred habitat. These ephemeral habitats often are located on the back side of barrier islands, are rich in invertebrates, and are habitats that shift size, exposure, and position with the tide and winds. Thus, great numbers of birds can be found in different geographic locations depending on the daily locations of the mud/sand/salt flats making it difficult to specifically pinpoint some important sites (e.g., along Laguna Madre, TX) for protection of wintering birds. Snowy Plovers have similar habitat requirements as Piping Plovers, thus similar cautionary notes are in order for them as well. For these reasons, it is important that a network of these ephemeral habitats remain available over a broad area.

Addition of Snowy Plovers to the Piping Plover census resulted in the first comprehensive survey of the southeastern birds in winter. When these results are merged with recent summaries of the distribution and abundance of Snowy Plovers (Page et al. 1995, Gorman and Haig 2002), a clearer picture emerges of where future censusing should occur for this species. Outside the U.S., they are common on Gulf of Mexico beaches and Laguna Madre de Tamaulipas in Mexico, the Bahamas, Cuba, Dominican Republic (J. Collazo, pers. comm.), and regularly occur in Puerto Rico.

Figure 4. Changes in the distribution and abundance of Piping Plovers from 1991 – 2001.



Breeding Census

The breeding census data portray a rare snapshot of an entire species distribution and abundance. The 2001 data provide an additional opportunity to examine long term trends for the species, regions, and local areas. At each spatial scale, results must be viewed with respect to the other spatial scales for which we have data.

Breeding census data can be viewed with confidence because throughout much of the breeding range, sites are censused at least annually and many are monitored throughout the breeding season. For example, among sites where Piping Plovers are known to breed, almost all Atlantic sites; all Great Lakes sites; the

Missouri River; most sites in Alberta and Manitoba; Lake Diefenbaker, Saskatchewan; and many others scattered throughout the Prairie/Northern Great Plains region are monitored annually, often by the same people. Thus, we have high detectability of birds when the international census is carried out. Sites that are problematic in some years include some of the large alkali lakes in Saskatchewan (Big Quill Lake and Chaplin Lake) which can be difficult to cover due to the vastness of open beach habitat and mud conditions.

Prairie Canada/U.S. Northern Great Plains – This western portion of the species range is characterized by a greater diversity of

habitats compared to other regions and is subject to widely varying site conditions due to the dynamic nature of weather and resulting ephemerality of many sites. However, despite its vastness, it is a region of tremendous fragility.

Prairie Canada represents the greatest subregional extent of Piping Plover habitat, and until 2001, it represented areas with some of the highest numbers of breeding pairs in the species range (e.g., Lake Diefenbaker, Big Quill Lake, and Chaplin Lake have always been in the top 5 or 10 most populous breeding sites for Piping Plovers). Thus, the scope of decline indicated by the 2001 results is remarkable for any avian species and raises questions regarding the viability of Piping Plovers in this region.

Reasons for decline vary by site, but the overall effect is an important loss of birds and/or habitat. In many places across the prairies, extensive and ongoing drought has resulted in complete drying of the habitat and encroachment of vegetation. Conversely, at other sites, severe flooding has destroyed previously good habitat. Furthermore, much of the habitat that appears viable does not contain birds.

An additional consideration is that extensive habitat loss or degradation in Alberta, Saskatchewan, and Manitoba may have caused birds to seek better habitat such as the recent unusually good habitat conditions on the Missouri River in the U.S. Northern Great Plains. It is possible that Prairie Canada birds stopped short on their way north or assessed the northern habitat and retreated south to better conditions. In general, prairie Piping Plovers are fairly site faithful with more than 67% of adults returning to some sites in Manitoba (Haig and Oring 1988b). However, large scale dispersal is possible. For example, during the 2001 census, a bird banded in Saskatchewan was reported breeding in Colorado (D. Nelson, P. Goossen, pers. comm.) and a bird previously banded on the Missouri River was observed at Lake of the Woods, MN (K. Hawes, pers. comm.). However, even with extensive dispersal capabilities, the number of birds that would have

had to disperse to the U.S. to account for the decline detected in Prairie Canada would be an unprecedented dispersal event for this species. We will not know if this occurred until we better understand migration and larger scale movement patterns for Piping Plovers. Additionally, even if birds did shift to the south, the increase in the number of birds on the Missouri River in 2001 does not compensate for the number of birds lost in Prairie Canada.

It is also possible that long term habitat loss or alteration has caused the Allee effect to come into play in some areas (Allee 1931, 1951; see beyond). This effect may occur when populations become so small that they are not demographically viable and ultimately they collapse. The Allee effect has been described for Piping Plovers at some areas in Manitoba (S. Haig, unpub. data), Michigan (Lambert and Ratcliffe 1981, Price 2002) and possibly Minnesota (S. Maxson, pers. comm; Maxson and Hawes 2000). In each case, males established territories at sites where the population had been higher but at that time was so small that they were not able to find or attract females. Not surprisingly, most of these events occurred at points where the species range is being eroded.

Remedies for significant regional population decline detected in Prairie Canada are not clear. If birds did seek out better habitat on the Missouri River, they may try to return to Prairie Canada as Missouri River conditions start to deteriorate. This may occur in the near future because Missouri River habitat has already begun to change. However, the drought continues in much of Prairie Canada. Thus, the region remains quite vulnerable.

In the U.S. Northern Great Plains, the predominant event in 2001 was the increase of Piping Plovers on the Missouri River. In 1991, following a drought period that exposed shoreline habitat on Missouri River reservoirs, plover numbers on the Missouri River were at their highest since listing. In 1996, extreme flows on the Missouri River inundated sandbars and shorelines, severely limiting the amount of

available habitat. Plover numbers plunged that year but subsequent historic floods in 1996 and 1997 returned the Missouri River to a more natural braided channel in the riverine reaches. The result was that thousands of hectares of islands and sandbars formed and were scoured free of vegetation from the flood flows. Plover numbers and productivity increased in subsequent years. By 2001, the newly-created habitat was reduced in the riverine portions by more than 50% but drought conditions in the upper basin caused reservoir levels to plummet, and hundreds of kilometers of potential nesting habitat were created. Lakes Sakakawea and Oahe, in the upper Missouri River basin, held record numbers of plovers in 2001.

Results from the Missouri River must be viewed in the context of the rest of the region. In addition to declines in Prairie Canada, declines occurred in all U.S. Northern Great Plains states except South Dakota, North Dakota, Kansas, and Colorado. In addition, as a result of heavy flooding, birds at Lake of the Woods, MN, the closest link to the Great Lakes and Prairie Canada, were reduced to near extinction (Maxson and Hawes 2000).

Great Lakes --In the Great Lakes, Piping Plover numbers have increased substantially over the past 10 years due to a combination of natural factors and intensive management (Wemmer 2000). Water levels on the western Great Lakes over the past two years approached historic lows and resulted in greater amounts of potential Piping Plover habitat. At present, habitat does not appear to be limiting and coupled with low water, chicks have had ideal weather conditions (e.g., above average temperatures, less than average precipitation) for survival to fledging in recent years. Thus, it is not clear if increased dispersal of birds into Wisconsin and Michigan is a result of more available habitat or if birds within the core breeding area in Michigan have exceeded the capacity of their breeding areas and are dispersing, or both. In any event, there are significantly more breeding or potentially breeding adults and the breeding range has expanded since the 1980's (Price 2002). As in

2001, it will be critical to continue to check former breeding sites across the region as the population increases.

Intensive nest site management (e.g., use of predator exclosures, beach closures, plover monitors) and captive rearing efforts have played a large role in the population increase in Michigan (Wemmer 2000). For example, productivity rates observed in 2001 were the highest recorded since annual monitoring began. While predation and human disturbance remain a threat, recent mitigation is having a positive effect on the latter. However, modeling exercises (Wemmer et al. 2001) suggest that in order for the Great Lakes population to maintain viability and persist for 100 years, these activities, along with additional habitat protection will be essential to maintain for the long-term.

Atlantic Coast – Census-wide, the greatest regional increases occurred on the Atlantic Coast, however, these were observed primarily in New England, rather than region-wide. In Eastern Canada, the overall increase of 14% since 1996 needs to be viewed in light of several factors. First, all provinces except Québec reported an increase in breeding birds in 2001 as compared to 1996; Prince Edward Island actually exceeded population levels recorded in 1991. However, at least a portion of the increase can be attributed to more intensive survey effort, particularly in Newfoundland. Further, the current population level of 481 individuals is lower than the 1991 level of 509 individuals.

Distribution of Piping Plovers in Eastern Canada has shifted within and among provinces since 1991. Trends in habitat suitability are variable among provinces as well and may partially account for shifting distributions over time. Within New Brunswick and Prince Edward Island, major flooding events and winter storms have greatly enhanced nesting habitat and new nesting sites have been created where no known breeding occurred in the past. The amount of suitable habitat has been consistent in Newfoundland and Québec. In Nova Scotia,

habitat at some sites has become less suitable for nesting. In all provinces some locations appear suitable but do not support Piping Plovers. Substantive protection measures that promote conservation also likely contributed to localized provincial increases.

Although overall population increases in the U.S. Atlantic between 1996 and 2001 were more modest than those recorded between the previous two international censuses (U.S. Fish and Wildlife Service 1997-2000), they were generally more evenly distributed. However, the positive five-year U.S. Atlantic coast trend masks substantial regional population dips that occurred in the intervening years and a very steep continuing decline at the southern end of the range.

The population in New England (Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut) attained the minimum subpopulation target established in the revised Atlantic Coast Recovery Plan (U.S. Fish and Wildlife Service 1996) and high quality habitat remains abundant. However, two-thirds of the 1996-2001 population increase occurred in the first two years. In 1997, breeding Piping Plovers were observed in New Hampshire after a 13 year hiatus and have since nested there consistently. Plovers also established breeding activity at new sites in Massachusetts and Rhode Island.

The five-year net gain in New York and New Jersey obscures an 11% decline that occurred between 1996 and 1998. Most of that decrease occurred in New Jersey, where it was linked with a 1996 oil spill and extremely poor productivity in 1997. Historical, on-going, and proposed development and widespread associated efforts to protect developments with artificially stabilized beaches forestall formation of optimal chick rearing habitats.

The southern part of the Atlantic range (Delaware, Maryland, Virginia, and North Carolina) remains precarious. Here bird numbers increased slightly in 1997 and 1998, then dipped below 1996 numbers in 1999 and

2000, before increasing again in 2001. The most recent increase is almost entirely attributable to strong productivity and population growth on three northern Virginia barrier islands. By contrast, numbers in the southern half of the Virginia barrier island chain and North Carolina have experienced a steep decline, from 75 pairs in 1995 to only 25 pairs in 2001. Piping Plovers appear to have more stringent breeding habitat requirements in the southern part of their Atlantic Coast range than in New England, and availability of preferred overwash and ephemeral pool chick-rearing habitats is limited by efforts to artificially stabilize beaches and natural succession (A. Hecht, pers. comm.). However, the current population may not be large enough to fill available habitat. Examples of high productivity and rapid population response in Maryland (increase from 19 to 61 pairs between 1993 and 1996) and three northern Virginia barrier islands (1998-2001 increase from 71 to 98 pairs) are indicators that substantial progress is possible.

Changing Population Structure in Piping Plovers

While demographic data are missing for many Piping Plover populations due to low numbers of banded birds and inadequate funding, changes in population distribution, size, and density, as evidenced in the international censuses, indicate areas of concern. For example, regional drought and flooding in much of the Prairie Canada/U.S. Northern Great Plains region resulted in an apparent large scale loss of habitat, at least temporarily. While failure of metapopulation dynamics has not been documented as a cause for extinction in birds (Simberloff 1994), a regional decline, such as apparently occurred in Prairie Canada/U.S. Northern Great Plains, may be an example of this problem. Failure of metapopulation dynamics could occur for a variety of reasons. First, the sheer loss of birds is significant. Second, breakdown in habitat connectivity within the region may also be important. Piping Plovers may be more faithful to a local mosaic of sites than to a specific site (Haig and Oring 1988a). For example, 78% of

adults in Manitoba that had failed nests changed study sites in subsequent years. However, the sites they moved to were within 100 km. Further, chicks usually do not return to specific natal sites but often return to a local region (Haig and Oring 1988b). Thus, maintenance of nearby suitable habitat when local conditions decline may be critical. Next, birds may have dispersed to the Missouri River but unless habitat conditions improve fairly quickly in the rest of the region, current adults may not survive long enough to attempt dispersal back to their former sites. Once the tradition of using these sites or this region is broken, it may be more difficult for subsequent birds to invade (Keitt et al. 2001, Price 2002). Further, whatever co-adapted gene complexes (Shields 1983) may have evolved for breeding on a prairie wetland habitat may or may not be beneficial on a large river system but could be lost prior to re-invasion of Prairie Canada. Conversely, these birds have adapted to a dynamic habitat, hence they must be flexible to survive. However, permanent changes in habitat will make it more difficult.

Censusers reported some recently occupied nest sites were no longer used by breeding Piping Plovers. Further, most nest sites had few birds breeding at them. This may result from a larger loss of habitat, but could be a more local phenomenon as well. A number of the various behavioral components described under the umbrella of the Allee effect may come into play (see also Reed 1999). For example, in many places in the past (e.g., Wilcox 1959) and in some currently, Piping Plovers breed semi-colonially. They may also co-occur with other shorebirds such as American Avocets (*Recurvirostra americana*) and Killdeer (*C. vociferus*) (Haig 1992). Together, these birds provide vigilance and some protection from predators. Once numbers decrease, this benefit may be diminished (although see Mayer and Ryan 1991). Courtship and mating systems may also be altered by decreasing densities of Piping Plovers. Male Piping Plovers perform an elaborate flight display and vocalizations during courtship. In Manitoba, males breeding semi-colonially often performed these displays

concurrently and with increased intensity as more males joined in (S.M. Haig, unpub. data). Thus, ability to attract females to a site may be enhanced by the presence of other courting males. Decline in density of breeding males may reduce recruitment to what otherwise might be viable nesting areas.

Summary

Piping Plovers are a widespread species for which we have long-term data on changes in distribution and abundance. Results from three international censuses illustrate that in the absence of repeated complete census efforts, it would not be possible to define and place into perspective local, regional, and species-wide trends. The census further illustrates the value of collecting simple field data over a species range. Results of the census represent the most extensive endangered species census effort in North America, the only accurate population estimate for a North American shorebird (Brown et al. 2000), the only complete widespread shorebird population estimate worldwide, and one of very few complete avian species estimates. It serves as a model approach for monitoring other endangered species and reflects the hard work and dedication of thousands of biologists and volunteers.

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OVERVIEW:

2001 International Piping and Snowy Plover Winter Census

For the winter portion of the Piping Plover census, nearly 400 observers surveyed 352 sites across more than 3,142 km along the U.S. Atlantic and Gulf coasts, northern Cuba, Puerto Rico, and the Bahamas (Table 1, Figure 5). All major sites were censused in the U.S. and Puerto Rico with the exception of the Chandeleur Islands in Louisiana. In previous international censuses, these islands accounted for 87-131 Piping Plovers (Haig and Plissner 1993, Plissner and Haig 2000b). Of sites surveyed, 33.5% (N = 118) contained Piping Plovers. Most sites with Piping Plovers (56.8%) contained 1-10 birds, 35.6% of plover sites had 11-50 birds, and less than 8% of plover sites had more than 50 birds. Overall, 2,389 Piping Plovers were located (Table 1, Figure 1), representing 40.2% of the birds recorded during the breeding census (N = 5,945). A majority (43.6%) of birds were found in Texas; the most abundant site for the winter census was South Padre Island, Texas with 603 Piping Plovers. Table 2 summarizes the results of the three censuses but should only be used for indications of where survey efforts have changed over time, rather than population trends.

Among sites used by wintering Piping Plovers, 73.4% were found on islands, 15.8% were found

on the mainland, 7.1% were found on sandbars, and the remaining birds were unspecified. When habitats were specified within sites, 36.3% of birds were seen on mudflats, 33.2% on sandy beaches, 23.1% on sand/salt flats, 2.8% on algal mats, 1.0% on oyster reefs, and 0.1% on gravel shores.

In the first systematic survey of wintering southeastern Snowy Plovers, more than 268 censusers covered 255 sites comprising over 2,511 km and identified 1,083 Snowy Plovers (Table 3). Birds occurred throughout the Gulf of Mexico, Cuba and Puerto Rico (Figure 2). Among sites surveyed, 25.9% contained Snowy Plovers. Most sites with Snowy Plovers (93.9%) had 50 or fewer birds; 51.5% had 1-10 birds, while 42.4% had 11-50 birds. Similar to Piping Plovers, most Snowy Plovers (63.7%) were seen along the Texas coast with another large concentration in Florida (28.7%). Most birds were seen on islands (57.9%) compared with the mainland (34.4%). Among sites where birds occurred, 31.6% were observed on sandy beaches, 21.4% on sand/salt flats, 21.0% on mudflats, 13.3% on gravel shores, 7.1% on algal mats, and <0.1% on oyster reefs.

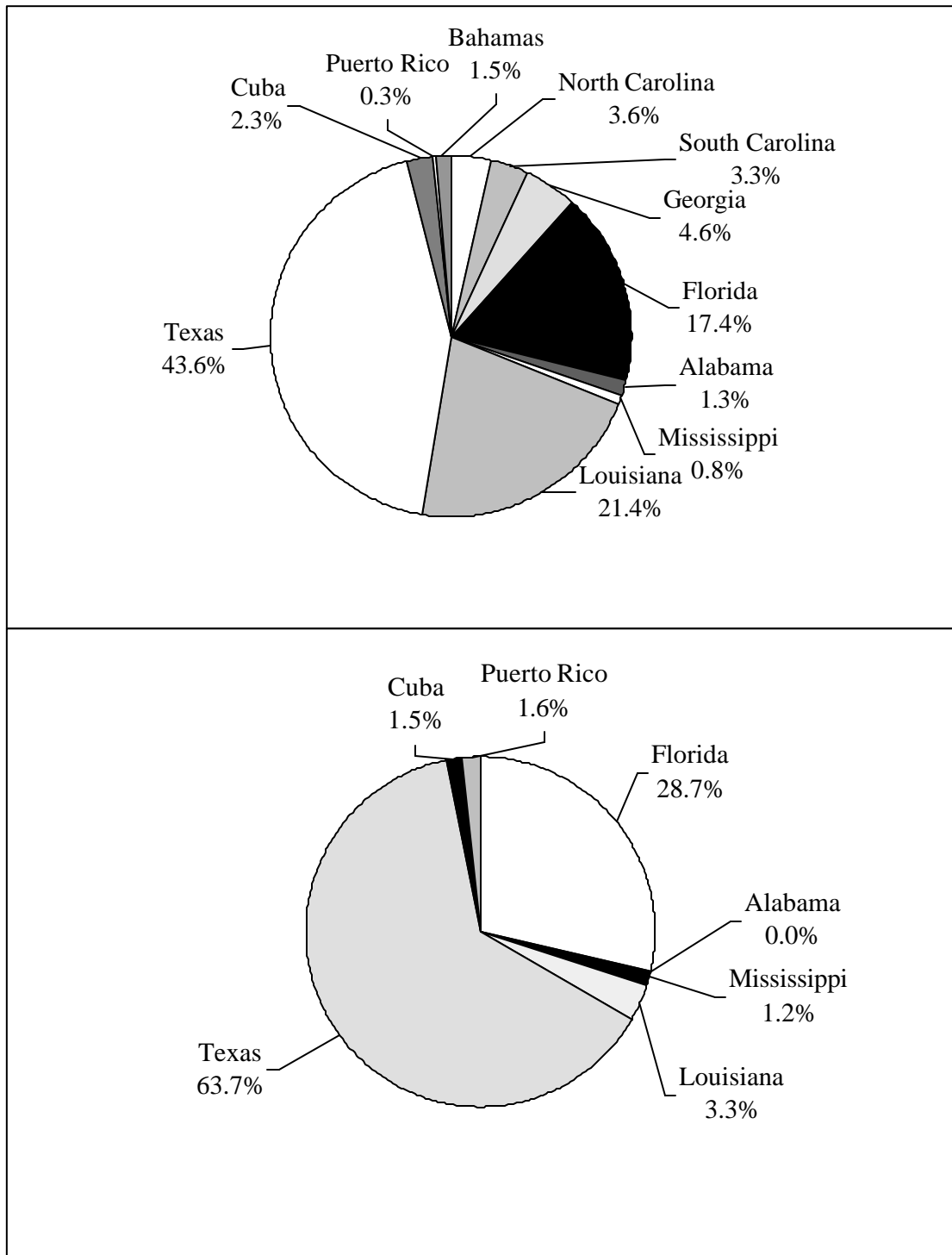


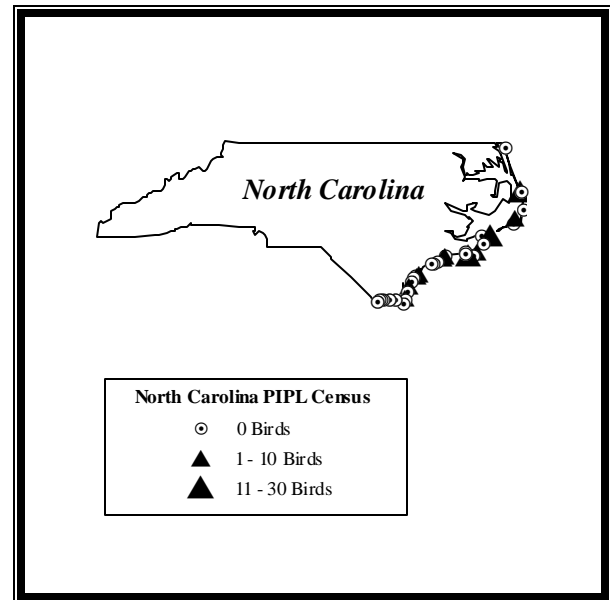
Figure 5: Distribution of Winter Piping Plovers (above) and Snowy Plovers (below) in 2001.

The 2001 International Piping Plover Winter Census in North Carolina

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Most known sites and suitable habitats were censused in North Carolina. There may be some additional habitat within the restricted area of Camp Lejeune which was not surveyed.

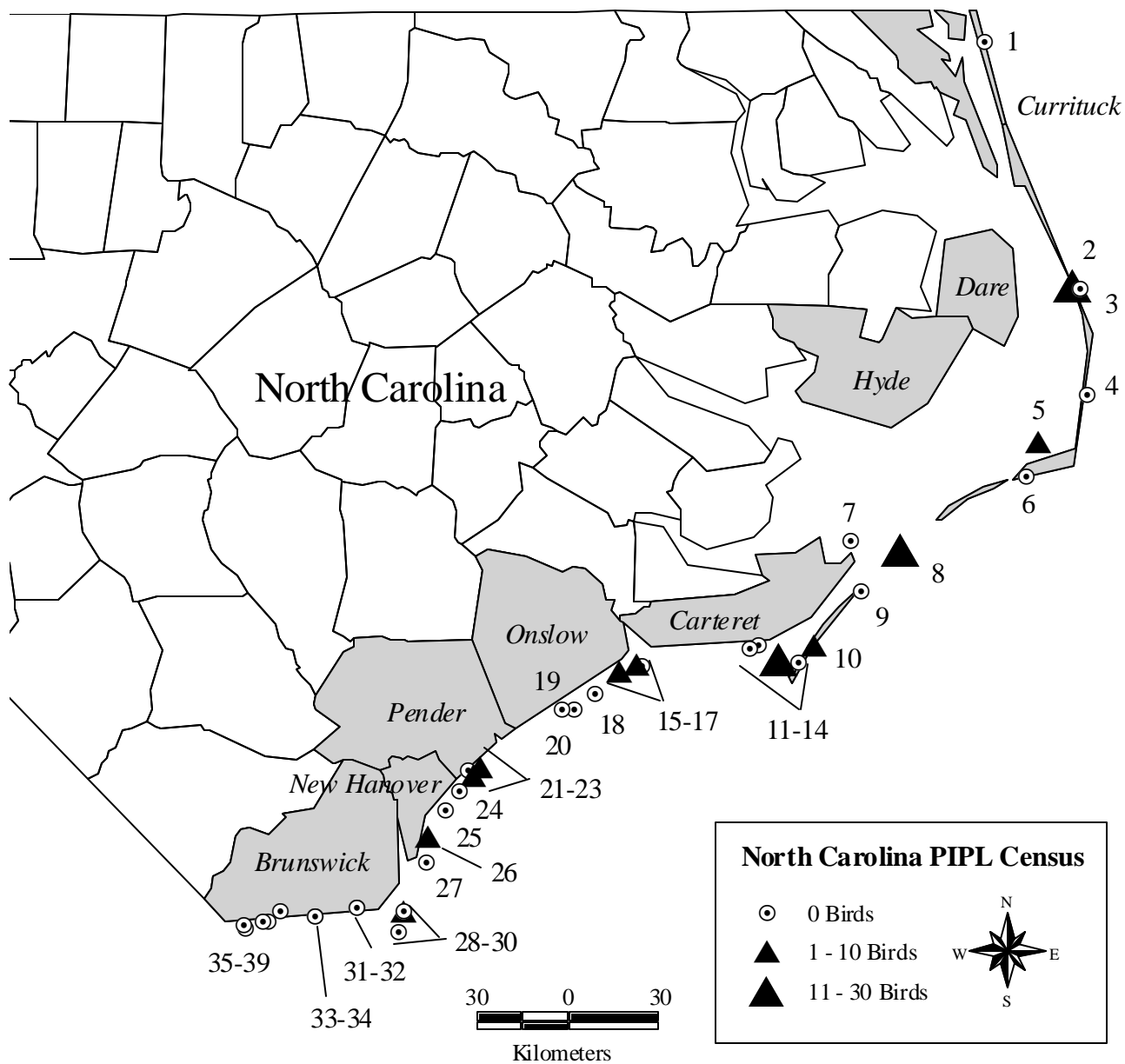
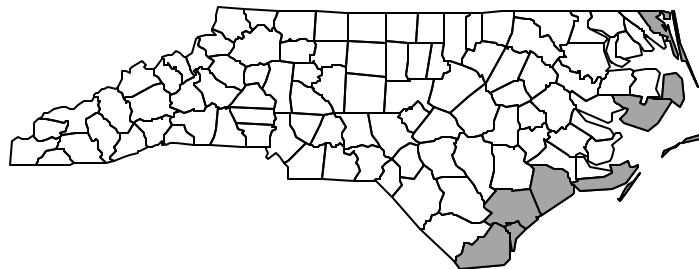
There are many miles of narrow oceanside beach that were not surveyed. However, we rarely see Piping Plovers in these areas and it is not considered suitable habitat. There is also the possibility that Piping Plovers may be using narrow mudflats located on the backside of barrier islands and other inaccessible areas within the sounds. Additional sites to consider for future censuses include: New Dump Island and North Rock Island.



Census numbers this year (87 birds) are considerably higher than in previous censuses (50 birds in 1996, 21 birds in 1991). Since we covered almost all suitable habitat, I feel we are within 10-15% of the actual number of Piping Plovers in the state. I believe the elevated number of birds found this year is partially due to the growth of the Atlantic Coast population, as well as expanded site coverage by better-trained observers.

Winter storms and snow are two factors that can drastically reduce the winter plover numbers in this region.

2001 International Piping Plover Winter Census - North Carolina -



The 2001 International Piping Plover Winter Census in North Carolina

COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Brunswick	Bald Head Island State Natural Area; East Beach	30	2/01	0	11.3	I,II A,F 1,3,8		Yes	Yes	s(p)
Brunswick	Bald Head Island; South and West Beaches	29	2/01	0	8.1	I B 1		Yes	Yes	p
Brunswick	Bird Island	39	2/04	0	1.6	I,II,III B,F 1,3,4		Yes	Yes	p
Brunswick	Fort Caswell; Oak Island	31	2/04	0	1.2	I B,F 1,8		Yes	Yes	p
Brunswick	Holden Beach; East End (Lockwood Folly's Inlet)	33	2/03	0	0.8	I,III B 1,3,4,7,10		Yes	Yes	p
Brunswick	Holden Beach; West End (Shallotte Inlet)	34	2/03	0	2.4	I,III B 1,3,4,7,8		Yes	Yes	p
Brunswick	Long Beach; West End Oak Island	32	2/04	0	3.2	I,III B,C 1,4		Yes	Yes	p
Brunswick	Ocean Isle Beach; East End	35	2/03	0	0.8	I,II,III B,F 1,3,7,8		Yes	Yes	p
Brunswick	Ocean Isle Beach; West End	36	2/03	0	0.8	I,III B 1,3		Yes	Yes	p
Brunswick	Sunset Beach, east (Tubbs Inlet)	37	2/04	0	0.8	I,III B 1,3,4,11		Yes	No	p
Brunswick	Sunset Beach, west (Mad Inlet)	38	2/04	0	1.6	II,III B,F 1,3,4		Yes	Yes	p
Carteret	Bogue Banks	15	2/08	0	2.4	I,II B 1,4,5,8,11		Yes	Yes	s(p)
Carteret	Cape Lookout N.S.; Middle Core Banks (Old Drum Inlet to New Drum Inlet)	9	2/07	0	4.8	I,II B,D 1,2,3,4,8		Yes	Yes	f
Carteret	Cape Lookout N.S.; Morgan Island	11	2/05	0	1.6	II C 1,8		No	Yes	f
Carteret	Cape Lookout N.S.; North Core Banks (Portsmouth Island)	8	2/06	15	32.3	I,II B 1,2,3,4	I,II B 1,4	Yes	Yes	f
Carteret	Cape Lookout N.S.; Shackleford Banks	12	2/08	24	17.7	I,II B 1,2,3,4,7,8	I,II B 1	Yes	Yes	f
Carteret	Cape Lookout N.S.; South Core Banks	10	2/05	7	45.2	I,II B 1,2,3,4	II B 3	Yes	Yes	f
Carteret	Cedar Island NWR	7	1/31	0	11.3	III A 1		Yes	Yes	f/s(p)/p
Carteret	Fort Macon State Park/Brandt Island	14	2/08	0	3.2	II B,C 1,2		Yes	Yes	s(p)
Carteret	Rachel Carson NERR	13	2/08	0	2.3	II B,D 3,8		Yes	Yes	s(p)
Currituck	Currituck National Wildlife Refuge	1	2/02	0	17.7	I B 1		Yes	Yes	f/s(p)
Dare	Clam Shoal	5	2/14	6	8.1	II D 3,4,7,8	II D 3,8	No	Yes	s(p)
Dare	North Cape Hatteras National Seashore; Bodie Island	4	2/01	0	48.4	I,II,III B 1,2,3		Yes	Yes	f
Dare	Oregon Inlet Shoal; Parnel Island; Wells Island	2	2/01	12	2.4	II C,D 3,4,8	II D 3	No	No	f
Dare	Pea Island National Wildlife Refuge	3	2/01	0	1.6	I,II,III B,F 1,3		Yes	Yes	f
Dare/Hyde	South Cape Hatteras N.S.; Hatteras Point to Ocracoke Inlet	6	2/02	0	45.2	I,II,III B 1,2,3		Yes	Yes	f
New Hanover	Carolina Beach State Park	27	2/07	0	0.8	I,II B 1		Yes	Yes	s(p)
New Hanover	Figure Eight Island	24	2/05	0	3.2	I,II,III B 1,3,4		Yes	Yes	m
New Hanover	Fort Fisher State Recreation Area	28	2/01	1	11.3	I,II A,F 1,3,8	II A 8	Yes	Yes	s(p)
New Hanover	Masonboro Island	26	2/10	2	7.3	I,II,III B 1,3,4,8,10	III B 1	Yes	Yes	s(p)
New Hanover	Wrightsville Beach	25	2/05	0	3.2	I,II B 1,3,4,8		No	Yes	m

The 2001 International Piping Plover Winter Census in North Carolina (Continued)

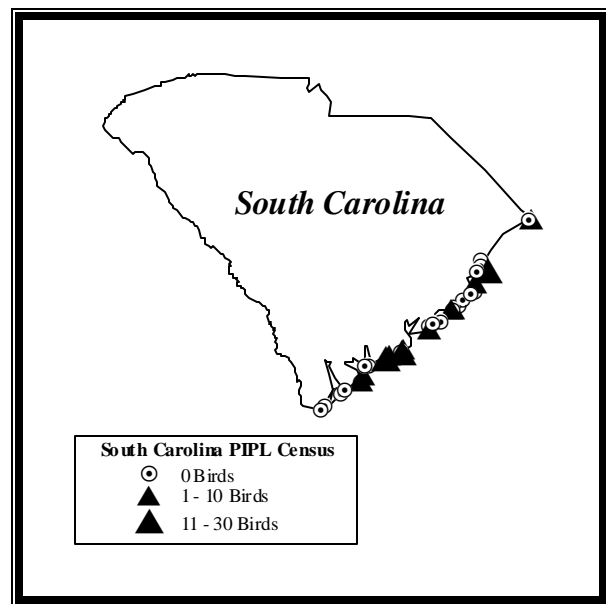
COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Onslow	Bogue Inlet Shoal	16	2/07	2	1.2	III D 4	III D 4	No	No	s(p)
Onslow	Hammocks Beach State Park	17	2/07	7	4.8	I B 1	I B 1	Yes	Yes	s(p)
Onslow	North Topsail Beach; New River Inlet	19	2/10	0	0.6	I,III B,F 1,3,4		Yes	Yes	s(p)
Onslow	North Topsail Beach; overwash area	20	2/10	0	0.3	III B 11		No	No	p
Onslow	Onslow Beach, Camp Lejeune (U.S. Marine Corps Base)	18	2/10	0	12.1	I B 1,2,3,5		No	Yes	f
Pender	Hutaff Island	23	2/07	6	4.0	I,II B 1,3,4,9	I B 1	No	Yes	p
Pender	Lea Island	21	2/07	5	2.4	I,II,III B 1,3,4,8	I B 1	No	Yes	p
Pender	South Topsail Beach; Topsail Inlet	22	2/11	0	1.6	I,III B,F 1		Yes	Yes	s(p)
Total				87	329.6					

The 2001 International Piping Plover Winter Census in South Carolina

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Thirty-two sites were surveyed during the 2001 International Census in South Carolina. Twelve (38%) sites contained Piping Plovers.

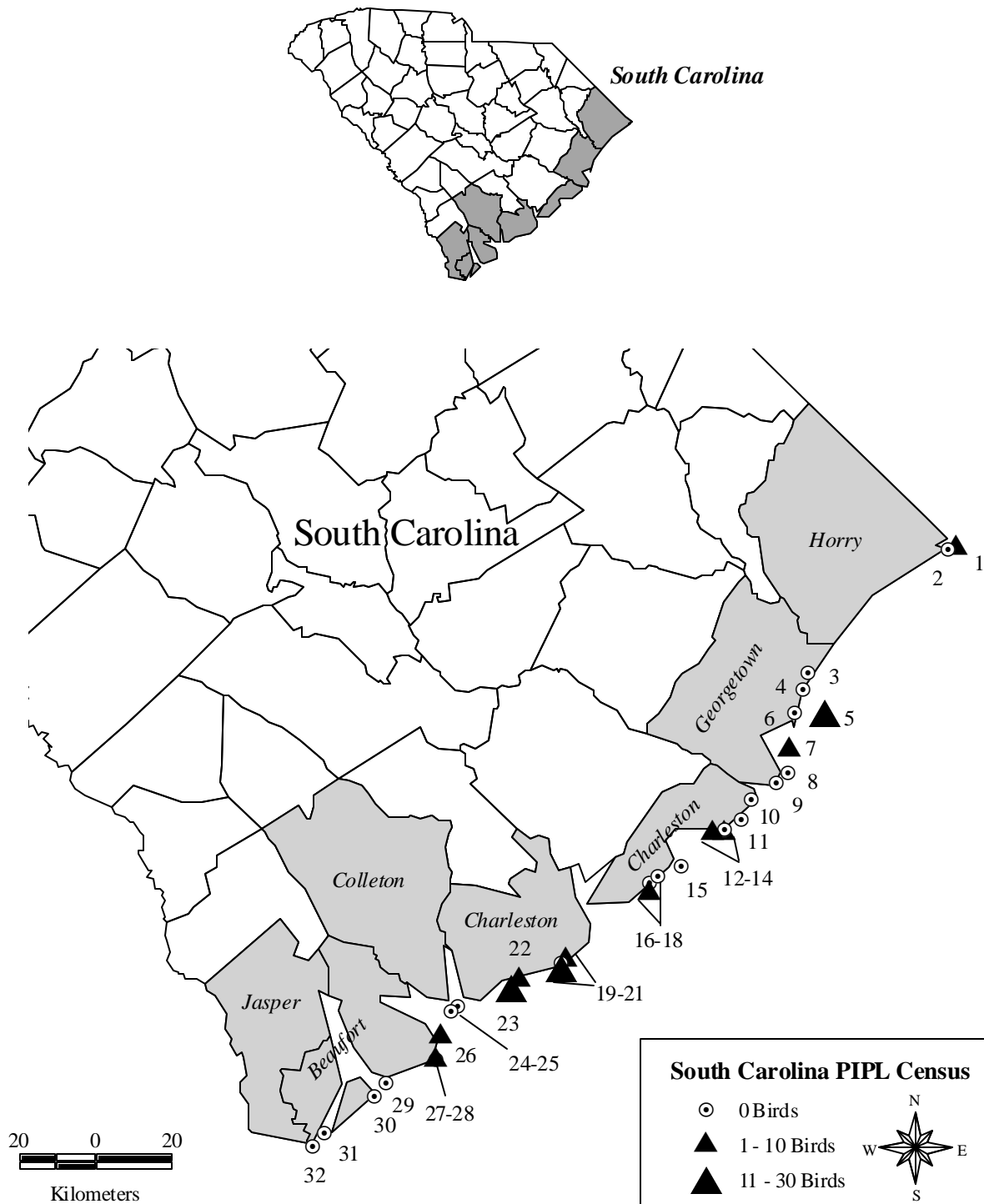
Seventy-eight adults were counted between 27 January and 9 February. The same number of adults were observed in the 1996 census, while 51 were counted in 1991. Thus the population has increased by 53% in the past decade.



Deveau's Bank in Charleston County harbored the largest number of birds ($N = 21$). It has been the most important wintering site in South Carolina for the past ten years. Other sites with ten or more birds included: Kiawah Island, north (14 birds) and Huntington Beach (11 birds).

Summarized by C. Ferland

2001 International Piping Plover Winter Census - South Carolina -



The 2001 International Piping Plover Winter Census in South Carolina

COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Beaufort	Bay Point Island to Fripp Inlet	29	2/02	0	18.5	I B,D 1,2,4		Yes	Yes	p
Beaufort	Daufuskie Island	31	2/01	0	1.8	I B 1		No	No	p
Beaufort	Fripp Island	28	2/02	0	0.6	I B 1		Yes	Yes	p
Beaufort	Harbor Island	26	2/02	6	1.1	I B,D 1,2	I D 2	Yes	Yes	p
Beaufort	Hilton Head Island & Joyner Bank	30	2/02	0	8.4	I B,D 1,2		Yes	Yes	p
Beaufort	Hunting Island	27	2/02	6	1.2	I B,D 1,4	I D 4	Yes	Yes	s(p)
Charleston	Bird Key Stono/Skimmer Flats	19	1/31	3	1.5	I,II C 1,3	II C 3	Yes	Yes	s(p)
Charleston	Bull Island, north	15	2/05	0	2.4	I,II B 1		Yes	No	f
Charleston	Bull Island, south	16	2/02	0	0.6	I,II B 1		No	Yes	f
Charleston	Cape Island, north	11	2/08	0	7.3	I,II B 1,3		Yes	Yes	f
Charleston	Cape Island, south	13	2/08	0	4.6	I,II B 1		Yes	Yes	f
Charleston	Capers Island	17	2/02	0	5.6	I,II B 1		Yes	Yes	s(p)
Charleston	Deveaux Bank	23	2/01	21	3.5	I,II E 1,3	I,II E 1,3	Yes	Yes	s(p)
Charleston	Deweese Island	18	2/02	1	4.0	I,II B 1,3	II B 3	No	No	p
Charleston	Kiawah Island, north	20	1/31	14	3.9	I,II B 1,2,3	I,II B 1,2,3	No	Yes	p
Charleston	Kiawah Island, south	21	1/29	0	12.9	I,II B 1		No	Yes	p
Charleston	Murphy Island	10	2/09	0	7.1	I,II B 1		No	No	s(p)
Charleston	Raccoon Key	14	2/08	3	0.2	I,II B 1,3	II B 1	Yes	No	f
Charleston	Seabrook Island	22	1/27	6	1.6	I,II B 1	II B 1	No	No	p
Charleston	South Lighthouse Island	12	2/08	1	1.3	I,II B 1,4	I B 1	Yes	No	f
Colleton	Otter Island	25	2/01	0	4.7	I B 1,8		No	Yes	s(p)
Colleton	Pine Island	24	2/01	0	3.2	I B 1,7		No	Yes	s(p)/p
Georgetown	Debidue Beach	6	2/06	0	6.6	I,II B 1		No	No	s(p)/p
Georgetown	Huntington Beach	5	1/30	11	4.4	II B 1	II B 1	Yes	Yes	s(p)
Georgetown	Litchfield Beach	3	1/30	0	6.0	I B 1		Yes	No	m
Georgetown	North Island	7	2/03	3	12.7	I,II B 1	I,II B 1	Yes	Yes	s(p)
Georgetown	Pawleys Island	4	2/05	0	5.2	I B 1		No	No	m/p
Georgetown	Sand Island	8	2/03	0	4.0	I,II B 1,3		Yes	Yes	s(p)
Georgetown	South Island	9	2/06	0	5.5	I,II B 1		Yes	Yes	s(p)
Horry	Little River Inlet	1	2/07	3	0.5	II D 3,4	II D 3	Yes	Yes	s(p)

**The 2001 International Piping Plover Winter Census in South Carolina
(Continued)**

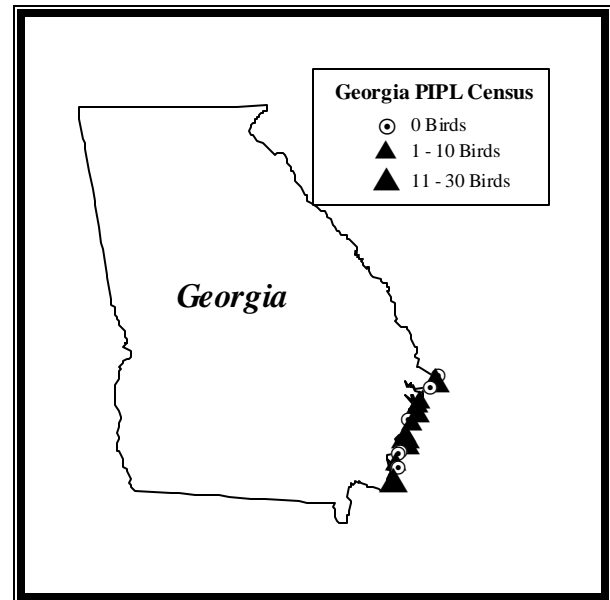
COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Horry	Waties Island	2	2/07	0	4.4	I,II B 1,3		No	No	p
Jasper	Turtle Island	32	2/02	0	0.5	I B 1,8		No	No	s(p)
Total				78	145.8					

The 2001 International Piping Plover Winter Census in Georgia

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The 2001 International Piping Plover Census in Georgia was as complete a one-day survey as any of our annual mid-winter waterbird surveys on the coast (1996-2001). We had calm weather and a census crew of 71 people, including some of the best birders in the state. The only barrier beach habitat on the Georgia coast not censused was a small emerging bar off the south end of Little St. Simons Island in Glynn County. This bar, known as Pelican Spit, and the associated 30+-acre island, eroded to nothing in 1999. Janice Nichols found Piping Plovers on this site in the late 1980's and we had 4 there in 1996. This site, if it continues to accrete, should be surveyed during the 2006 plover census.

We had a fairly accurate count except for some birds possibly missed on Little Egg Island Bar. Due to fog early in the day the survey of Little Egg Island Bar in the mouth of the Altamaha River did not commence until 1300 hours. This 60-acre site has between 20 and 40 Piping Plovers during most winter counts. The survey

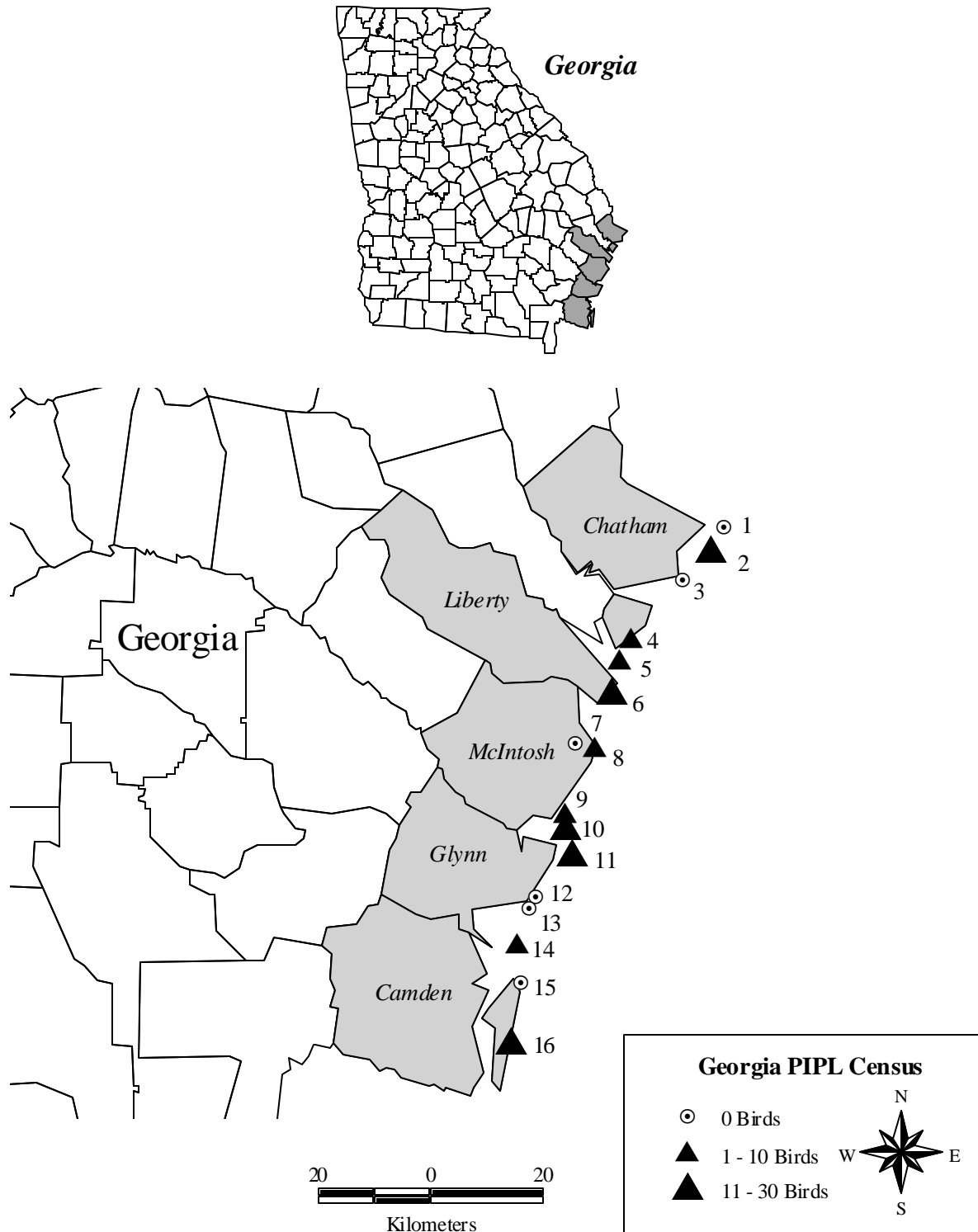


crew described birds being dispersed during their survey and suggested that there was so much sand and mudflat feeding habitat exposed around the island that they could have overlooked birds.

The 2001 census results (111 birds) are lower than our last full survey in 1999 when we counted 155 Piping Plovers on Georgia's Beaches. The 1999 figure was our highest to date. The 2002 winter survey resulted in 143 Piping Plovers.

There are few disturbance issues on most of the barrier coast of Georgia. However, human population centers are growing and winter weekend disturbance is undoubtedly going to increase in the future. Potential foraging habitat is extensive but roosting sites may become limited due to erosion on much of the Georgia Coast.

2001 International Piping Plover Winter Census - Georgia -



The 2001 International Piping Plover Winter Census in Georgia

COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Camden	Cumberland Island National Seashore	16	1/29	18	28.2	I B 1,3,8,11	I B 1,3	Yes	Yes	f
Camden	Little Cumberland Island	15	1/29	0	4.6	I B 1		Yes	Yes	p
Chatham	Little Tybee Island	2	1/29	12	5.5	I B 1,3	I B 1,3	Yes	Yes	s(p)
Chatham	Ossabaw Island	4	1/29	4	18.0	I B 1,3	I B 1,3	Yes	Yes	s(p)
Chatham	Tybee Island	1	1/29	0	5.8	I B 1		Yes	Yes	m
Chatham	Wassaw NWR	3	1/29	0	11.3	I B 1,11		Yes	Yes	f
Glynn	Jekyll Island	14	1/29	2	13.2	I B 1	I B 1	Yes	Yes	s(p)
Glynn	Little Egg Island sandbar	10	1/29	12	1.5	I D 1,3,8	I D 1,3,8	No	Yes	s(p)
Glynn	Little St. Simons Island	11	1/29	25	11.2	I B 1,3	I B 1,3	Yes	Yes	p
Glynn	Sea Island	12	1/29	0	8.5	I B 1		Yes	Yes	p
Glynn	St. Simons Island	13	1/29	0	4.3	I B 1		No	Yes	m
Liberty	St. Catherine's Island	6	1/29	14	18.4	I B 1,2,3,8	I B 1,3,8	Yes	Yes	P
Liberty	St. Catherine's Island sandbar	5	1/29	10	1.0	I D 1,3	I D 1,3	No	No	s(p)
McIntosh	Blackbeard Island NWR	7	1/29	0	9.6	I B 1,3		Yes	Yes	f
McIntosh	Sapelo Island	8	1/29	7	8.1	I B 1,3	I B 1,3	Yes	Yes	s(p)
McIntosh	Wolf Island NWR	9	1/29	7	5.8	I B,D,E 1,3,8	I B 1,3,8	Yes	Yes	f
Total				111	155.0					

The 2001 International Piping and Snowy Plover Winter Census in Florida

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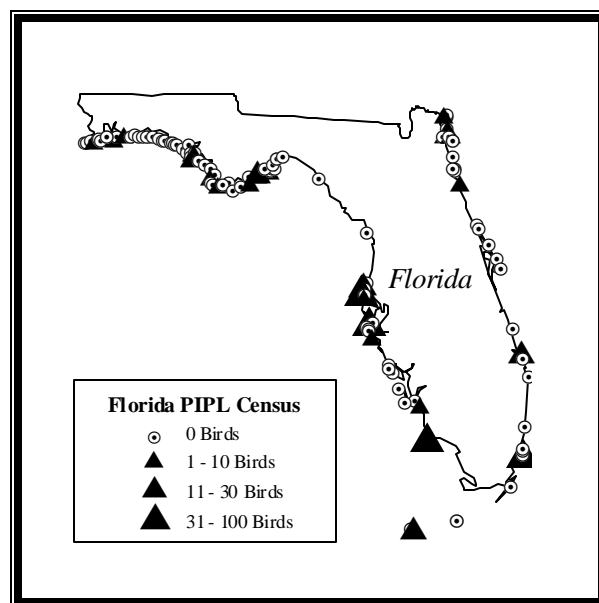
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One hundred and sixty two participants surveyed 122 sites covering approximately 900 km (558 miles) of Florida shoreline for Piping and Snowy Plovers. The total number of Piping Plovers for the state was 416 compared to 551 in 1991 and 375 in 1996. This represents an 11% increase from 1996, but a 25% decrease from the 1991 count. Three hundred and five birds were on the Gulf Coast with 111 on the Atlantic Coast.

Four sites in Pinellas County accounted for 163 Piping Plovers, approximately 40% of the state total. This was slightly lower than the 1996 census (184 birds).

Other Piping Plover concentration areas were Crandon Park Beach (31 birds), 16 birds on Shell Island, 15 on Lanark Reef, 41 on northwest Marco Island, and 26 on Anclote Keys.

Areas showing surprisingly low numbers compared to past surveys were Lanark Reef (15 birds), Ft. Desoto County Park (north) (9 birds), and Honeymoon Islands (19 birds).



Areas showing higher numbers compared to past surveys include Crandon Park Beach with 31 birds in 2001 and 0 in 1991. This site was not surveyed during the 1996 census. Little Talbot Islands increased to 26 birds in 2001 from 9 in 1991, and 8 in 1996. Woman Key increased to 24 birds in 2001 from zero in 1996. It was not censused during 1991. Anclote Key State Park (north) increased to 25 in 2001 compared with 5 in 1991 and 4 in 1996. Three Rooker Bar had an all time high of 80 birds compared to 59 in 1991 and 46 in 1996.

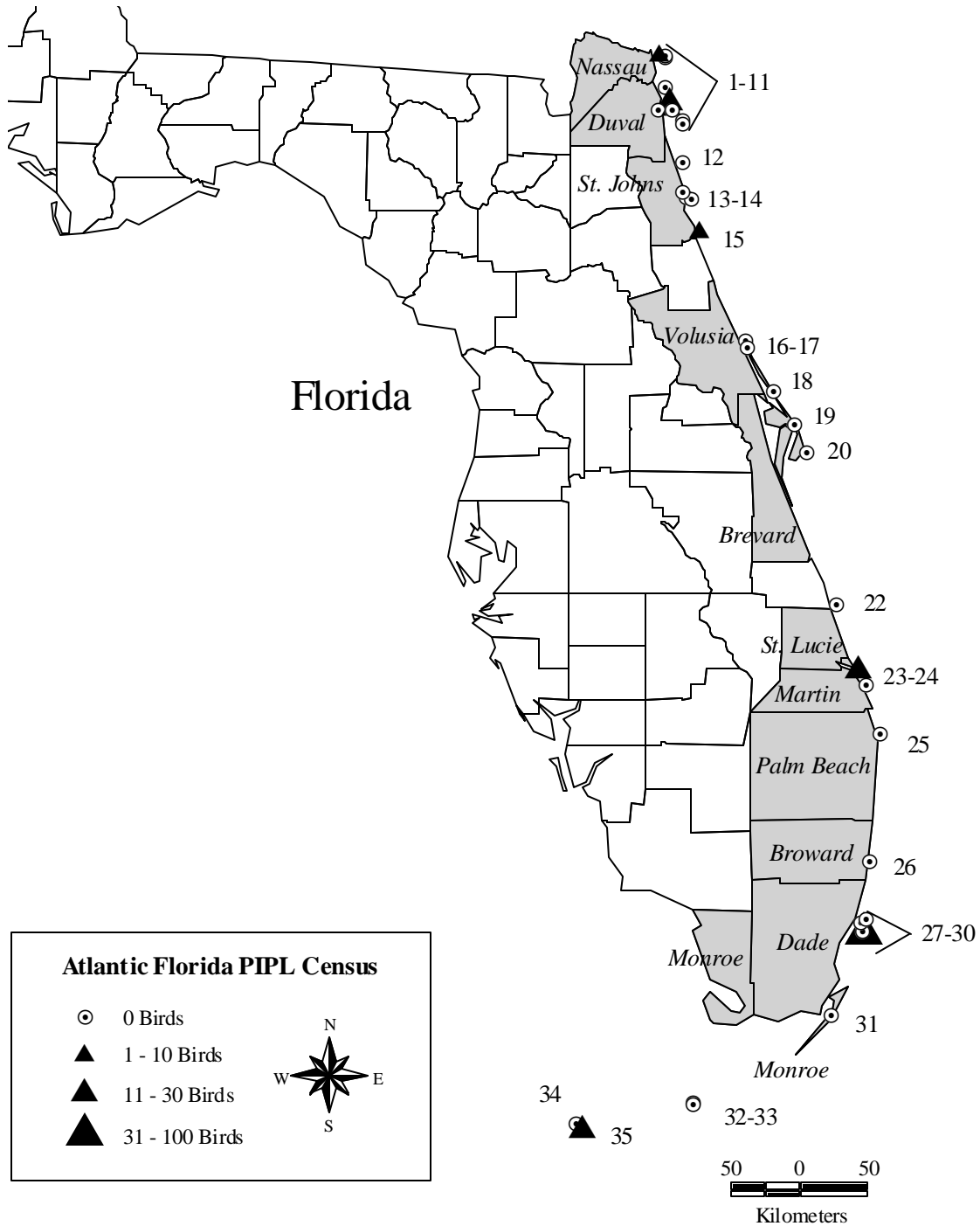
In 1991, 136 birds were seen in the panhandle, and 108 in 1996, with only 65 Piping Plovers seen in 2001. A lower number of 15 birds on Lanark Reef versus 41 in 1991 and 58 in 1996 largely attributed to this decline. Cold, windy weather during the census was considered to be a contributing factor in lower than expected numbers of birds in the state.

The majority of sites that have provided suitable habitat for Piping Plovers in the past were surveyed during the census period with the exception of portions of the Florida Keys and potential habitat in the Big Bend area. Both areas seem to have suitable habitat but are surrounded by extremely shallow waters, thereby making boat access nearly impossible during winter months. Areas to survey in the future include the unique areas in central and

southern Florida called high marsh and salt pans (salt terns). These areas are often open inland areas behind mangrove vegetation. In the recent past, Piping Plovers have been observed using these areas at Cape Haze/Gasparilla Sound State Buffer Preserve and Bunche Beach in Lee County.

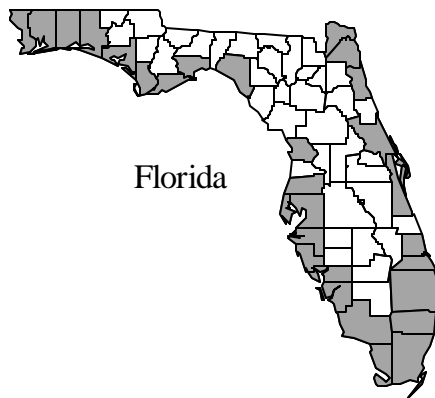
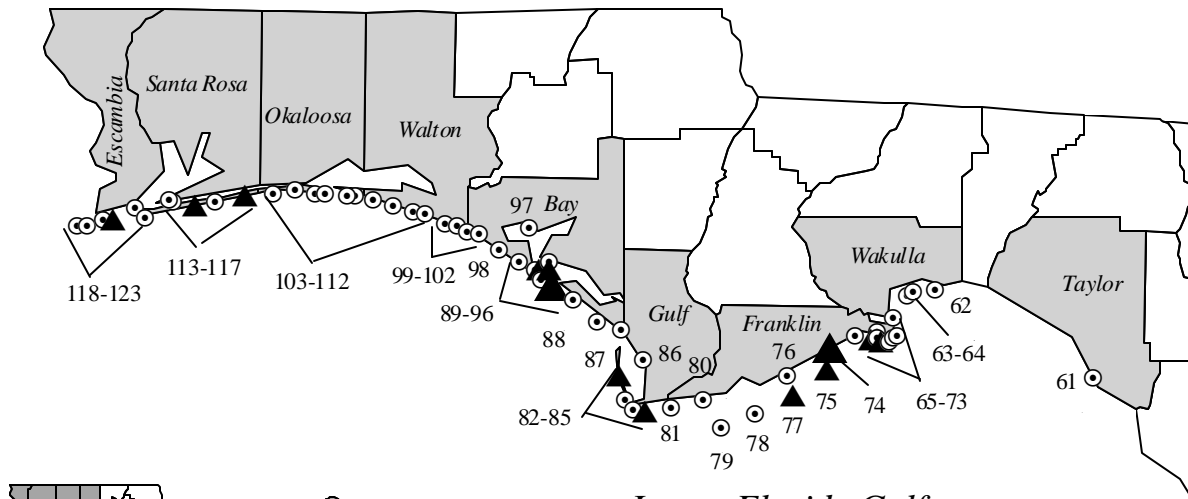
Snowy Plover totals in Florida were 304 on the Gulf Coast and a rare find of 1 on the Atlantic Coast on the St. Lucie Inlet Sailfish Point sand flats in Martin County. Surveyors in seven panhandle counties located 207 (68% of the statewide numbers) Snowy Plovers.

2001 International Piping Plover Winter Census - Atlantic Florida -

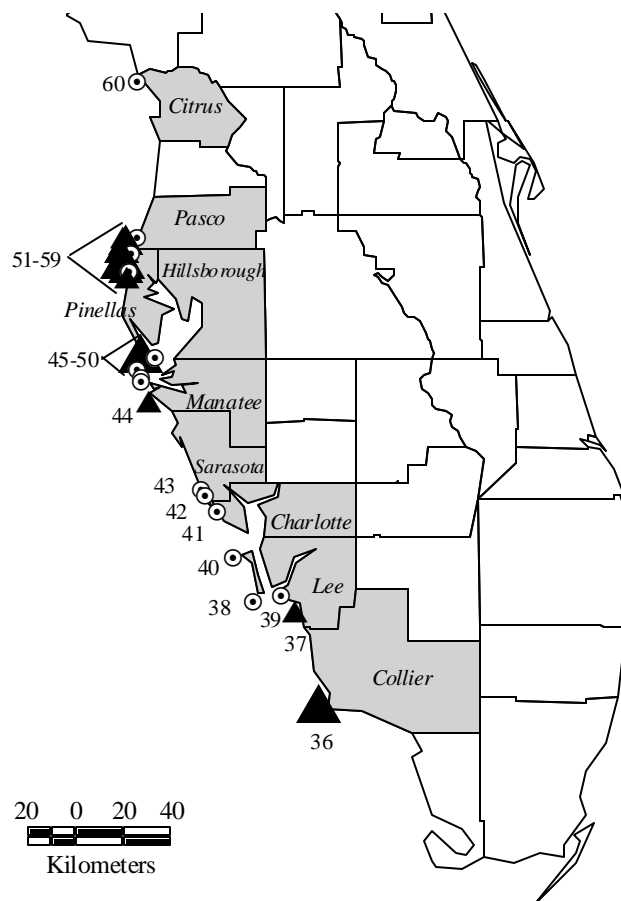


2001 International Piping Plover Winter Census - Gulf Florida -

Upper Florida Gulf

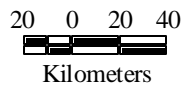


Lower Florida Gulf



Gulf Florida PIPL Census

- 0 Birds
- ▲ 1 - 10 Birds
- ▲ 11 - 30 Birds
- ▲ 31 - 100 Birds



The 2001 International Piping and Snowy Plover Winter Census in Florida Piping Plover Results

COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Bay	Bay County Pier to 12th Street (Laguna Beach)	98	2/03	0	8.1	I A 1		No	No	m/p
Bay	Bay County Pier to St. Andrews State Park	94	2/03	0	8.1	I A 1		No	No	s(p)
Bay	Bay Point Marriott Lagoon (Magnolia Beach)	93	2/03	1	1.6	II A 1,3,4,8,9	II A 8,9	Yes	No	p
Bay	Camp Helen State Park	100	2/02	0	1.6	I A 1,3		Yes	No	s(p)
Bay	Crooked Island E, Tyndall AFB	88	2/02	0	11.9	I,II B 1,2,3,4,8		Yes	Yes	f
Bay	Crooked Island W, Tyndall AFB	89	2/02	0	15.2	I,II B 1,2,3,4,8		Yes	Yes	f
Bay	Marifarms	97	2/12	0	4.8	II A 3,10,11		No	No	s(p)
Bay	Mexico Beach	87	2/03	0	3.2	I A 1		No	Yes	m/p
Bay	Redfish Point to Smack Bayou	95	2/02	2	4.8	II A 11	II A 11	No	No	f
Bay	Shell Island	90	2/09	16	12.9	I,II B 1,2,3,8,9,10	I B 1,2,3,8,9	Yes	Yes	f
Bay	St. Andrews Park, Shell Island	91	2/02	0	5.6	I B 1,3,8		Yes	Yes	s(p)
Bay	St. Andrews State Recreation Area	92	2/02	0	3.2	I,II A 1,4		Yes	Yes	s(p)
Bay	Sunnyside (Camp Helen, east to 12th Street)	99	2/03	0	8.1	I A 1		No	No	p
Bay	West Beach Drive, Panama City	96	2/02	0	6.5	II A 1,3,4,8		No	No	s(p)
Brevard	Cape Canaveral Air Force Station	20	2/01	0	20.8	I B 1		Yes	Yes	f
Brevard	Merritt Island NWR	19	2/02	0	10.0	I E 1		No	No	f
Brevard/ Volusia	Canaveral National Seashore	18	2/13	0	38.7	I B 1		Yes	Yes	f
Broward	John U. Lloyd Beach State Recreation Area	26	1/31	0	4.0	I B 1		Yes	No	s(p)
Charlotte	Knight Island, Palm Island Resort	41	2/03	0	3.2	I B 1		Yes	No	p
Citrus	Florida Barge Canal spoil islands	60	2/15	0	12.9	III C 1,4,6,7		No	No	s(p)
Collier	Big Marco Pass Shoal	36	2/08	41	3.2	III D 2,3,4,11	III D 2,4	Yes	Yes	s(p)
Dade	Bill Baggs Cape Florida State Park	30	1/30	0	3.1	I,III B 1,8		No	No	s(p)
Dade	Crandon Park Beach	29	2/02	31	1.2	I B,D 3,4	I B,D 3,4	Yes	No	m
Dade	Rickenbacker Causeway Shoreline	27	2/02	0	3.2	II F 1		No	No	m
Dade	Virginia Key Critical Wildlife Area	28	2/02	0	0.8	I B 1		Yes	Yes	m
Duval	Atlantic Beach	9	2/07	0	4.0	I A 1		No	Yes	s(p)
Duval	Buck Island	8	2/06	0	1.6	III C 1		Yes	No	m
Duval	Kathryn Abby Hanna Park	7	2/10	0	2.0	I B 1		Yes	Yes	m
Duval	Little Talbot Island State Park	5	2/10	26	11.3	I,II B,E,F 1,2,3,4,8	I,II B,E 1,2,3,8	Yes	Yes	s(p)
Duval	Neptune Beach	10	2/07	0	4.0	I A 1		Yes	Yes	s(p)
Duval	Ward's Bank (Huguenot Park)	6	2/10	8	5.6	II B 3,4	II B 3,4	Yes	Yes	m

The 2001 International Piping and Snowy Plover Winter Census in Florida Piping Plover Results (Continued)

COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Escambia	Big Lagoon State Park	121	2/03	0	1.6	II A 1,2,3,4,8,9,10		No	No	s(p)
Escambia	Big Sabine Point, Santa Rosa Island	115	2/07	4	3.2	II B 3	II B 3	No	No	p
Escambia	Gulf Islands National Seashore, Fort Pickens area	118	2/07	0	12.3	I B 1		Yes	Yes	f
Escambia	Gulf Islands National Seashore, Perdido Key	123	2/03	0	3.6	I B 1		No	Yes	p
Escambia	Gulf Islands National Seashore, Perdido Key, east	120	2/04	1	12.9	I,II B,C 1,2,3,4,6	II B 1	No	No	f
Escambia	Gulf Islands National Seashore, Santa Rosa Island area	114	2/07	0	29.0	II B 1		No	Yes	f
Escambia	Pensacola Naval Air Station & Trout Point	119	2/04	0	16.1	I,III A 1,6,8,10		No	No	f
Escambia	Perdido Key SRA/Big Lagoon State Park	122	2/15	0	1.6	II A,B 1,3,8		No	No	s(p)
Franklin	Alligator Point	66	2/02	2	1.9	III B 1	III B 1	Yes	No	p
Franklin	Bald Point State Park (Alligator Point)	68	2/03	0	7.1	I,II A 1,10		No	Yes	s(p)
Franklin	Carrabelle Beach	76	2/03	0	19.4	II A 1,3		Yes	Yes	s(p)/p
Franklin	Dog Island	75	2/02	3	14.5	I,II B 1,2,3	I B 1,2	Yes	No	p
Franklin	John S. Phipps Preserve (Peninsula Point)	72	2/02	9	4.0	I,II D,F 1,2,4,10	II F 4	Yes	Yes	p
Franklin	Lanark Reef	74	2/02	15	4.5	I,II B 3,9,10	I B 3,9	Yes	Yes	s(p)
Franklin	Lighthouse Point (Alligator Point)	69	2/02	0	1.0	III B 1		Yes	No	p
Franklin	Little St. George Island	79	2/05	0	16.1	I B 1		Yes	Yes	s(p)
Franklin	Peninsula Point (Alligator Point)	71	2/02	0	2.6	III B 1		No	No	p
Franklin	Southwest Cape (Alligator Point)	70	2/02	0	1.6	III B 1		No	No	p
Franklin	St. George Island (west of Shell Point)	78	2/03	0	24.2	II B 1,2		Yes	No	m/p
Franklin	St. George Island State Park	77	2/02	7	29.0	I,II B,D 1,3,7	I,II B,D 1,7	Yes	Yes	s(p)
Franklin	St. Teresa Beach	67	2/02	0	25.8	III A,F 1,3		No	No	p
Franklin	St. Vincent NWR	81	2/02	0	24.2	II,III B 1		Yes	Yes	f
Franklin	St. Vincent Sound	80	2/02	0	17.7	II A,C 1,3,7,8,10		No	No	p
Franklin	Turkey Point	73	2/03	0	3.2	I A,D 1,2,3,7		Yes	Yes	s(p)/p
Gulf	Cape San Blas	83	2/03	0	4.0	III F 1		Yes	Yes	f/s(p)
Gulf	Indian Pass to Cape San Blas	82	2/02	1	16.1	I B 1	I B 1	Yes	No	m
Gulf	St. Joe Beach to Oak Grove	86	2/02	0	11.3	II,III A 1		Yes	No	m/p
Gulf	St. Joseph Peninsula, north	85	2/02	2	27.4	I,II B 1,3,4,8	II B 4	Yes	Yes	s(p)
Gulf	St. Joseph Peninsula, south	84	2/02	0	10.5	III F 1		Yes	Yes	s(p)
Hillsborough	Egmont Key NWR & State Park	47	2/08	0	4.0	II B 1		Yes	Yes	f
Lee	Bunche Beach	39	1/27	0	3.3	I A,B 1,3		Yes	Yes	m

The 2001 International Piping and Snowy Plover Winter Census in Florida

Piping Plover Results (Continued)

COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Lee	Cayo Costa	40	n.r.	0	n.r.	Not specified		Yes	No	s(p)
Lee	Estero Island	37	1/29	9	1.6	I,II D 1,8	II D 8	No	No	m
Lee	Sanibel Island Beach	38	1/27	0	5.9	I B 1,3		Yes	Yes	s(p)/p
Manatee	Anna Maria Island	45	1/31	0	3.2	I B 1		Yes	Yes	s(p)
Manatee	Beer Can Island	44	2/13	1	2.0	III B 1	III B 1	Yes	Yes	s(p)/m
Manatee	Passage Key NWR	46	2/09	0	1.2	II B 1		Yes	Yes	f
Martin	Sailfish Point Flats	23	2/04	12	4.8	II E 3,8	II E 3,8	Yes	Yes	s(p)
Martin	St. Lucie Inlet S.P. & Hobe Sound NWR	24	1/30	0	8.9	I B 1		Yes	Yes	f/s(p)
Monroe	Bahia Honda State Park	33	1/30	0	4.8	I F 1,6		Yes	Yes	s(p)
Monroe	Boca Grande Key	35	2/01	0	1.3	I E,F 1,8		Yes	Yes	f
Monroe	John D. Pennekamp Coral Reef State Park	31	1/30	0	22.6	I A,B,C 10,11		No	Yes	s(p)
Monroe	Ohio Key	32	2/08	0	0.2	I E,F 1,8		Yes	Yes	f
Monroe	Woman Key	34	2/01	24	1.5	I E,F 1,2	I E 2	No	Yes	f
Nassau	Amelia Island (main beach to Ft. Clinch State Park)	3	2/15	0	3.7	I B 1		Yes	No	s(p)/m/p
Nassau	Amelia Island Recreation Area	4	2/13	0	2.4	I B 1		No	No	s(p)
Nassau	Fort Clinch State Park	2	2/11	0	6.5	I,II B 1		Yes	No	s(p)
Nassau	Little Tiger Island/Tiger Creek Mouth	1	2/07	9	3.2	III E,F 1,4	III E,F 1,4	No	No	p
Okaloosa	Destin	107	2/03	0	6.9	I,II A,F 1,10		Yes	No	s(p)/m/p
Okaloosa	Eglin AFB (public beach), Okaloosa Island	109	2/07	0	4.2	I,III B 1		No	Yes	f
Okaloosa	Eglin AFB (restricted beach), Santa Rosa Island	112	2/07	0	21.0	I,III B 1		No	Yes	f
Okaloosa	Henderson Beach State Park	110	2/02	0	2.1	III B 1		No	No	s(p)
Okaloosa	Norriego & Moreno Point	108	2/03	0	4.8	II,III A,F 1		Yes	No	s(p)/m
Okaloosa/ Santa Rosa	Santa Rosa Sound (mainland & soundside of Santa Rosa Island)	111	3/07	0	48.4	II A,B 1,2,3,4		Yes	No	f/p
Palm Beach	MacArthur Beach State Park	25	1/30	0	2.9	I,II B,D 1,8		Yes	Yes	s(p)
Pasco	Anclote Key sandbar	58	2/09	1	0.8	I D 1,3	I D 3	No	Yes	s(p)
Pasco	Anclote Key State Park, north	57	2/09	25	0.1	II B 3	II B 3	Yes	Yes	s(p)
Pasco	Green Key to Anclote River (Pasco Coast)	59	1/29	0	0.2	I A 1		No	No	m/p
Pinellas	Anclote Key State Park, south	56	2/09	13	1.6	III B 1	III B 1	Yes	Yes	s(p)
Pinellas	Caladesi Island State Park	51	2/06	1	3.2	III B 1	III B 1	Yes	Yes	s(p)
Pinellas	Ft. DeSoto County Park, north	49	2/02	9	0.8	II B 1,3	II B 3	Yes	Yes	m
Pinellas	Honeymoon Island Causeway	52	2/04	0	1.6	II F 11		Yes	Yes	m

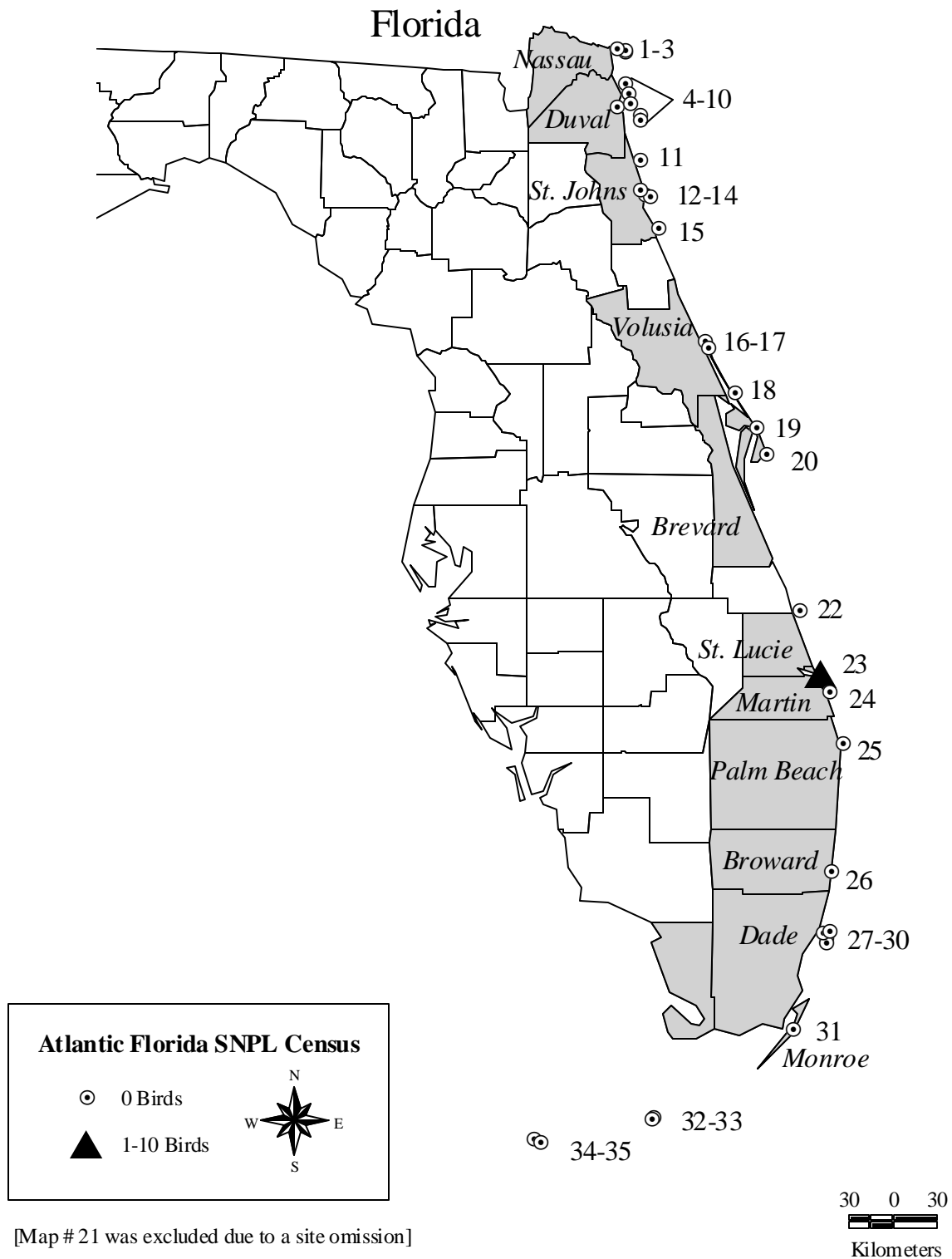
The 2001 International Piping and Snowy Plover Winter Census in Florida

Piping Plover Results (Continued)

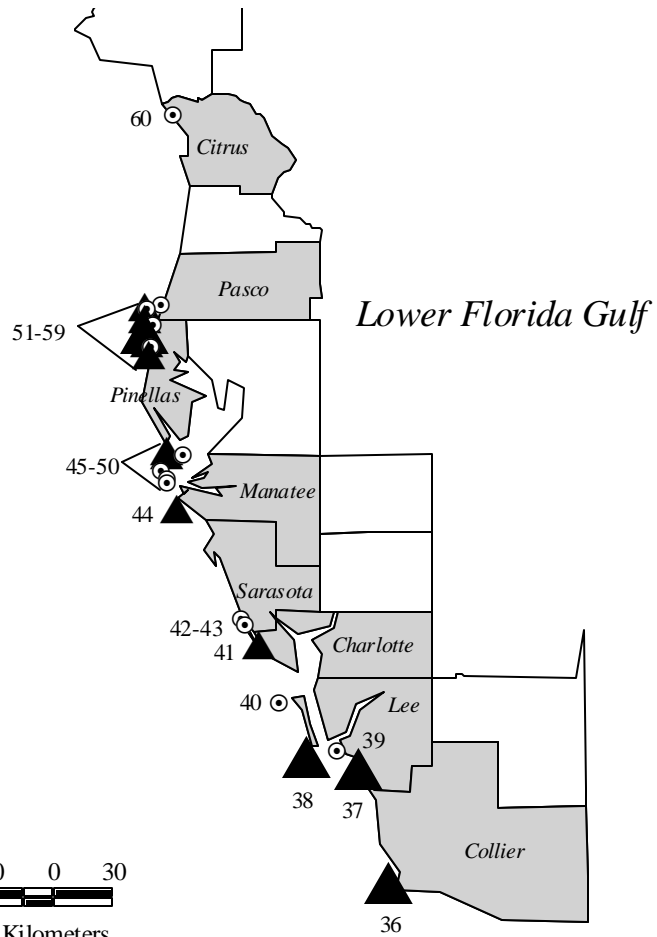
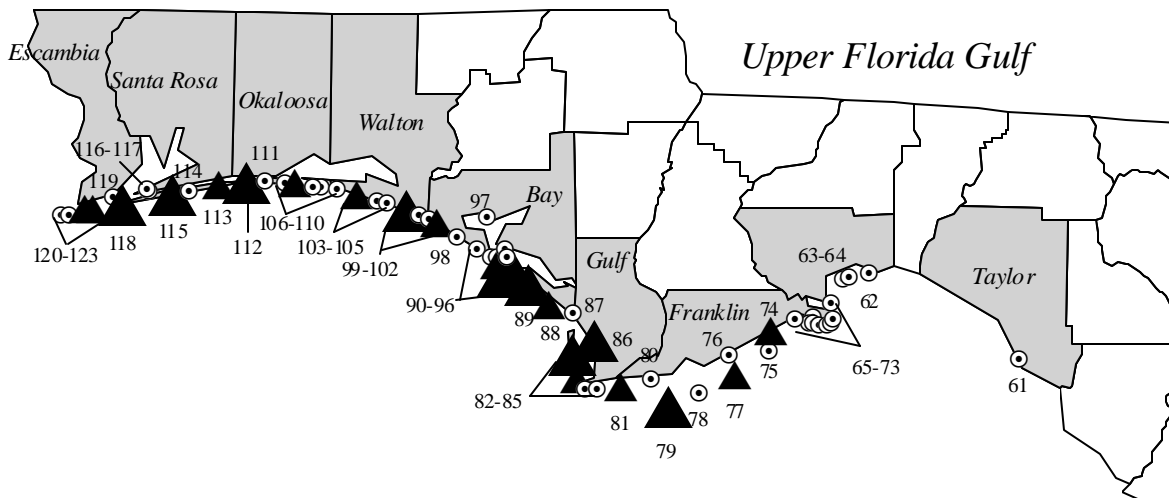
COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Pinellas	Honeymoon Island State Park, north	53	1/30	19	2.4	II,III B 1,3	II,III B 1,3	Yes	Yes	s(p)
Pinellas	Howard County Park	55	2/04	0	0.8	II C,F 1,3		Yes	Yes	m
Pinellas	Shell Key	50	2/01	41	0.8	II B 1,3,8	II B 3,8	No	Yes	s(p)/m
Pinellas	Skyway Bridge Causeway	48	1/31	0	0.8	II F 1		Yes	Yes	s(p)
Pinellas	Three Rooker Bar	54	2/08	80	4.0	III B 1,3	III B 1	Yes	Yes	s(p)
Santa Rosa	Naval Live Oaks, Pensacola Bay side	117	2/07	0	2.7	II A 1		No	No	f
Santa Rosa	Naval Live Oaks, sound side	116	2/07	0	3.8	II A 1		No	No	f
Santa Rosa	Navarre Beach State Park	113	2/02	2	4.0	II,III B 1,3,8	III B 8	No	No	s(p)
Sarasota	Blind Pass Beach	42	2/05	0	4.8	III B 1		No	No	m/p
Sarasota	Manasota Beach	43	2/05	0	3.2	III B 1		No	No	m/p
St. Johns	Anastasia State Recreation Area	13	2/08	0	6.8	I B 1		Yes	Yes	s(p)
St. Johns	Fort Matanzas National Monument	15	2/08	1	4.0	I,II,III B,C,D,E 1,2,3,4,8,11	II B 8	Yes	Yes	f
St. Johns	Guana River State Park	11	2/08	0	21.8	I B 11		Yes	Yes	s(p)/p
St. Johns	Porpoise Point (Vilano Point)	14	2/10	0	1.6	II B 1,8		No	Yes	p
St. Johns	San Sebastian River & S.R. 16 Bridge, mudflats	12	2/10	0	1.6	III A,D 7,8		No	Yes	s(p)
St. Lucie	Fort Pierce Inlet to Indian River County	22	1/30	0	10.0	I B 1		Yes	Yes	s(p)/p
Taylor	Hagen's Cove	61	2/03	0	1.9	II A 1,3,11		No	No	s(p)
Volusia	New Smyrna Beach	17	2/09	0	16.1	I,II B 1,3		Yes	Yes	f/s(p)
Volusia	Port Orange to Ponce De Leon Inlet	16	n.r.	0	6.5	I,II B,C,D 1,4,7,8		No	Yes	f/s(p)
Wakulla	Live Oak Island	63	2/05	0	0.3	II A 7,8		No	No	p
Wakulla	Mashes Island	65	2/03	0	1.6	I,II A 1,3		Yes	Yes	m
Wakulla	Shell Point Beach	64	2/05	0	0.3	II A 1,8		No	Yes	s(p)/m
Wakulla	St. Marks Lighthouse	62	2/05	0	1.1	II A 3,5,8		No	No	f
Walton	Beach Highlands Dune Allen	104	2/03	0	7.7	I,III A,F 1,9,10		No	No	p
Walton	Camp Creek Inlet (east of Deer Lake SP)	102	2/02	0	5.6	I A 1,3		No	No	s(p)/p
Walton	Grayton Beach State Park	103	2/02	0	4.8	I A 1,3		Yes	No	s(p)
Walton	Sandestin, gulf and bay beaches	106	1/27	0	8.1	I,II,III A,F 1,10		No	No	s(p)/p
Walton	Seaside-Seagrove Beach to Inlet Beach	101	2/02	0	16.1	I,II A 1,3,11		No	No	f/s(p)/m
Walton	Topsail Hill State Preserve	105	2/03	0	5.0	III A 1		No	No	s(p)
Total				416	899.5					

n.r. = not reported

2001 International Piping and Snowy Plover Winter Census - Snowy Plovers in Atlantic Florida -



2001 International Piping and Snowy Plover Winter Census - Snowy Plovers in Gulf Florida -



Gulf Florida SNPL Census

○ 0 Birds

▲ 1 - 10 Birds

▲ 11 - 30 Birds

▲ 31 - 100 Birds



30 0 30
Kilometers

The 2001 International Piping and Snowy Plover Winter Census in Florida

Snowy Plover Results

COUNTY	SITE NAME	MAP #	DATE	TOTAL		SITE DESCRIPTION	SNPL HABITAT	OWNER
				SNPL	KM			
Bay	Bay County Pier to 12th Street (Laguna Beach)	98	2/03	0	8.1	I A 1		m/p
Bay	Bay County Pier to St. Andrews State Park	94	2/03	0	8.1	I A 1		s(p)
Bay	Bay Point Marriott Lagoon (Magnolia Beach)	93	2/03	0	1.6	II A 1,3,4,8,9		p
Bay	Camp Helen State Park	100	2/02	0	1.6	I A 1,3		s(p)
Bay	Crooked Island E, Tyndall AFB	88	2/02	1	11.9	I,II B 1,2,3,4,8	I B 3	f
Bay	Crooked Island W, Tyndall AFB	89	2/02	14	15.2	I,II B 1,2,3,4,8	I B 3	f
Bay	Marifarms	97	2/12	0	4.8	II A 3,10,11		s(p)
Bay	Mexico Beach	87	2/03	0	3.2	I A 1		m/p
Bay	Redfish Point to Smack Bayou	95	2/02	0	4.8	II A 11		f
Bay	Shell Island	90	2/09	43	12.9	I,II B 1,2,3,8,9,10	I B 1,2,3,8,9	f
Bay	St. Andrews Park, Shell Island	91	2/02	2	5.6	I B 1,3,8	I B 3	s(p)
Bay	St. Andrews State Recreation Area	92	2/02	0	3.2	I,II A 1,4		s(p)
Bay	Sunnyside (Camp Helen, east to 12th Street)	99	2/03	3	8.1	I A 1	I A 1	p
Bay	West Beach Drive, Panama City	96	2/02	0	6.5	II A 1,3,4,8		s(p)
Brevard	Cape Canaveral Air Force Station	20	2/01	0	20.8	I B 1		f
Brevard	Merritt Island NWR	19	2/02	0	10.0	I E 1		f
Brevard/Volusia	Canaveral National Seashore	18	2/13	0	38.7	I B 1		f
Broward	John U. Lloyd Beach State Recreation Area	26	1/31	0	4.0	I B 1		s(p)
Charlotte	Knight Island, Palm Island Resort	41	2/03	7	3.2	I B 1	I B 1	p
Citrus	Florida Barge Canal spoil islands	60	2/15	0	12.9	III C 1,4,6,7		s(p)
Collier	Big Marco Pass Shoal	36	2/08	17	3.2	III D 2,3,4,11	III D 4	s(p)
Dade	Bill Baggs Cape Florida State Park	30	1/30	0	3.1	I,III B 1,8		s(p)
Dade	Crandon Park Beach	29	2/02	0	1.2	I B,D 3,4		m
Dade	Rickenbacker Causeway Shoreline	27	2/02	0	3.2	II F 1		m
Dade	Virginia Key Critical Wildlife Area	28	2/02	0	0.8	I B 1		m
Duval	Atlantic Beach	9	2/07	0	4.0	I A 1		s(p)
Duval	Buck Island	8	2/06	0	1.6	III C 1		m
Duval	Kathryn Abby Hanna Park	7	2/10	0	2.0	I B 1		m
Duval	Little Talbot Island State Park	5	2/10	0	11.3	I,II B,E,F 1,2,3,4,8		s(p)

The 2001 International Piping and Snowy Plover Winter Census in Florida

Snowy Plover Results (Continued)

COUNTY	SITE NAME	MAP #	DATE	TOTAL		SITE DESCRIPTION	SNPL HABITAT	OWNER
				SNPL	KM			
Duval	Neptune Beach	10	2/07	0	4.0	I A 1		s(p)
Duval	Ward's Bank (Huguenot Park)	6	2/10	0	5.6	II B 3,4		m
Escambia	Big Lagoon State Park	121	2/03	7	1.6	II A 1,2,3,4,8,9,10	II A 3,9	s(p)
Escambia	Big Sabine Point, Santa Rosa Island	115	2/07	19	3.2	II B 3	II B 3	p
Escambia	Gulf Islands National Seashore, Fort Pickens area	118	2/07	15	12.3	I B 1	I B 1	f
Escambia	Gulf Islands National Seashore, Perdido Key	123	2/03	0	3.6	I B 1		p
Escambia	Gulf Islands National Seashore, Perdido Key, east	120	2/04	7	12.9	I,II B,C 1,2,3,4,6	I B 1	f
Escambia	Gulf Islands National Seashore, Santa Rosa Island area	114	2/07	0	29.0	II B 1		f
Escambia	Pensacola Naval Air Station & Trout Point	119	2/04	0	16.1	I,III A 1,6,8,10		f
Escambia	Perdido Key SRA/Big Lagoon State Park	122	2/15	0	1.6	II A,B 1,3,8		s(p)
Franklin	Alligator Point	66	2/02	0	1.9	III B 1		p
Franklin	Bald Point State Park (Alligator Point)	68	2/03	0	7.1	I,II A 1,10		s(p)
Franklin	Carrabelle Beach	76	2/03	0	19.4	II A 1,3		s(p)/p
Franklin	Dog Island	75	2/02	0	14.5	I,II B 1,2,3		p
Franklin	John S. Phipps Preserve (Peninsula Point)	72	2/02	0	4.0	I,II D,F 1,2,4,10		p
Franklin	Lanark Reef	74	2/02	2	4.5	I,II B 3,9,10	I B 9	s(p)
Franklin	Lighthouse Point (Alligator Point)	69	2/02	0	1.0	III B 1		p
Franklin	Little St. George Island	79	2/05	12	16.1	I B 1	I B 1	s(p)
Franklin	Peninsula Point (Alligator Point)	71	2/02	0	2.6	III B 1		p
Franklin	Southwest Cape (Alligator Point)	70	2/02	0	1.6	III B 1		p
Franklin	St. George Island (west of Shell Point)	78	2/03	0	24.2	II B 1,2		m/p
Franklin	St. George Island State Park	77	2/02	2	29.0	I,II B,D 1,3,7	I B 1	s(p)
Franklin	St. Teresa Beach	67	2/02	0	25.8	III A,F 1,3		p
Franklin	St. Vincent NWR	81	2/02	4	24.2	II,III B 1	III B 1	f
Franklin	St. Vincent Sound	80	2/02	0	17.7	II A,C 1,3,7,8,10		p
Franklin	Turkey Point	73	2/03	0	3.2	I A,D 1,2,3,7		s(p)/p
Gulf	Cape San Blas	83	2/03	0	4.0	III F 1		f/s(p)
Gulf	Indian Pass to Cape San Blas	82	2/02	0	16.1	I B 1		m
Gulf	St. Joe Beach to Oak Grove	86	2/02	13	11.3	II,III A 1	II,III A 1	m/p
Gulf	St. Joseph Peninsula, north	85	2/02	18	27.4	I,II B 1,3,4,8	I,II B 1,3,4,8	s(p)

The 2001 International Piping and Snowy Plover Winter Census in Florida

Snowy Plover Results (Continued)

COUNTY	SITE NAME	MAP #	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWNER
Gulf	St. Joseph Peninsula, south	84	2/02	1	10.5	III F 1	III F 1	s(p)
Hillsborough	Egmont Key NWR & State Park	47	2/08	0	4.0	II B 1		f
Lee	Bunche Beach	39	1/27	0	3.3	I A,B 1,3		m
Lee	Cayo Costa	40	n.r.	0	n.r.	Not specified		s(p)
Lee	Estero Island	37	1/29	15	1.6	I,II D 1,8	II D 8	m
Lee	Sanibel Island Beach	38	1/27	17	5.9	I B 1,3	I B 1	s(p)/p
Manatee	Anna Maria Island	45	1/31	0	3.2	I B 1		s(p)
Manatee	Beer Can Island	44	2/13	2	2.0	III B 1	III B 1	s(p)/m
Manatee	Passage Key NWR	46	2/09	0	1.2	II B 1		f
Martin	Sailfish Point Flats	23	2/04	1	4.8	II E 3,8	II E 3	s(p)
Martin	St. Lucie Inlet S.P. & Hobe Sound NWR	24	1/30	0	8.9	I B 1		f/s(p)
Monroe	Bahia Honda State Park	33	1/30	0	4.8	I F 1,6		s(p)
Monroe	Boca Grande Key	35	2/01	0	1.3	I E,F 1,8		f
Monroe	John D. Pennekamp Coral Reef State Park	31	1/30	0	22.6	I A,B,C 10,11		s(p)
Monroe	Ohio Key	32	2/08	0	0.2	I E,F 1,8		f
Monroe	Woman Key	34	2/01	0	1.5	I E,F 1,2		f
Nassau	Amelia Island (main beach to Ft. Clinch State Park)	3	2/15	0	3.7	I B 1		s(p)/m/p
Nassau	Amelia Island Recreation Area	4	2/13	0	2.4	I B 1		s(p)
Nassau	Fort Clinch State Park	2	2/11	0	6.5	I,II B 1		s(p)
Nassau	Little Tiger Island/Tiger Creek Mouth	1	2/07	0	3.2	III E,F 1,4		p
Okaloosa	Destin	107	2/03	0	6.9	I,II A,F 1,10		s(p)/m/p
Okaloosa	Eglin AFB (public beach), Okaloosa Island	109	2/07	9	4.2	I,III B 1	I B 1	f
Okaloosa	Eglin AFB (restricted beach), Santa Rosa Island	112	2/07	11	21.0	I,III B 1	III B 1	f
Okaloosa	Henderson Beach State Park	110	2/02	0	2.1	III B 1		s(p)
Okaloosa	Norriego & Moreno Point	108	2/03	0	4.8	II,III A,F 1		s(p)/m
Okaloosa/Santa Rosa	Santa Rosa Sound (mainland & soundside of Santa Rosa Island)	111	3/07	0	48.4	II A,B 1,2,3,4		f/p
Palm Beach	MacArthur Beach State Park	25	1/30	0	2.9	I,II B,D 1,8		s(p)
Pasco	Anclote Key sandbar	58	2/09	6	0.8	I D 1,3	I D 1	s(p)
Pasco	Anclote Key State Park, north	57	2/09	0	0.1	II B 3		s(p)

The 2001 International Piping and Snowy Plover Winter Census in Florida

Snowy Plover Results (Continued)

COUNTY	SITE NAME	MAP #	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWNER
Pasco	Green Key to Anclote River (Pasco Coast)	59	1/29	0	0.2	I A 1		m/p
Pinellas	Anclote Key State Park, south	56	2/09	2	1.6	III B 1	III B 1	s(p)
Pinellas	Caladesi Island State Park	51	2/06	4	3.2	III B 1	III B 1	s(p)
Pinellas	Ft. DeSoto County Park, north	49	2/02	5	0.8	II B 1,3	II B 1	m
Pinellas	Honeymoon Island Causeway	52	2/04	0	1.6	II F 11		m
Pinellas	Honeymoon Island State Park, north	53	1/30	7	2.4	II,III B 1,3	III B 1	s(p)
Pinellas	Howard County Park	55	2/04	0	0.8	II C,F 1,3		m
Pinellas	Shell Key	50	2/01	5	0.8	II B 1,3,8	II B 1,3	s(p)/m
Pinellas	Skyway Bridge Causeway	48	1/31	0	0.8	II F 1		s(p)
Pinellas	Three Rooker Bar	54	2/08	16	4.0	III B 1,3	III B 1	s(p)
Santa Rosa	Naval Live Oaks, Pensacola Bay side	117	2/07	0	2.7	II A 1		f
Santa Rosa	Naval Live Oaks, sound side	116	2/07	0	3.8	II A 1		f
Santa Rosa	Navarre Beach State Park	113	2/02	1	4.0	II,III B 1,3,8	III B 8	s(p)
Sarasota	Blind Pass Beach	42	2/05	0	4.8	III B 1		m/p
Sarasota	Manasota Beach	43	2/05	0	3.2	III B 1		m/p
St. Johns	Anastasia State Recreation Area	13	2/08	0	6.8	I B 1		s(p)
St. Johns	Fort Matanzas National Monument	15	2/08	0	4.0	I,II,III B,C,D,E 1,2,3,4,8,11		f
St. Johns	Guana River State Park	11	2/08	0	21.8	I B 11		s(p)/p
St. Johns	Porpoise Point (Vilano Point)	14	2/10	0	1.6	II B 1,8		p
St. Johns	San Sebastian River & S.R. 16 Bridge, mudflats	12	2/10	0	1.6	III A,D 7,8		s(p)
St. Lucie	Fort Pierce Inlet to Indian River County	22	1/30	0	10.0	I B 1		s(p)/p
Taylor	Hagen's Cove	61	2/03	0	1.9	II A 1,3,11		s(p)
Volusia	New Smyrna Beach	17	2/09	0	16.1	I,II B 1,3		f/s(p)
Volusia	Port Orange to Ponce De Leon Inlet	16	n.r.	0	6.5	I,II B,C,D 1,4,7,8		f/s(p)
Wakulla	Live Oak Island	63	2/05	0	0.3	II A 7,8		p
Wakulla	Mashes Island	65	2/03	0	1.6	I,II A 1,3		m
Wakulla	Shell Point Beach	64	2/05	0	0.3	II A 1,8		s(p)/m
Wakulla	St. Marks Lighthouse	62	2/05	0	1.1	II A 3,5,8		f
Walton	Beach Highlands Dune Allen	104	2/03	0	7.7	I,III A,F 1,9,10		p

**The 2001 International Piping and Snowy Plover Winter Census in Florida
Snowy Plover Results (Continued)**

COUNTY	SITE NAME	MAP #	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWNER
Walton	Camp Creek Inlet (east of Deer Lake SP)	102	2/02	14	5.6	I A 1,3	I A 1	s(p)/p
Walton	Grayton Beach State Park	103	2/02	0	4.8	I A 1,3		s(p)
Walton	Sandestin, gulf and bay beaches	106	1/27	0	8.1	I,II,III A,F 1,10		s(p)/p
Walton	Seaside-Seagrove Beach to Inlet Beach	101	2/02	0	16.1	I,II A 1,3,11		f/s(p)/m
Walton	Topsail Hill State Preserve	105	2/03	9	5.0	III A 1	III A 1	s(p)
Total				311	899.5			

n.r. = not reported

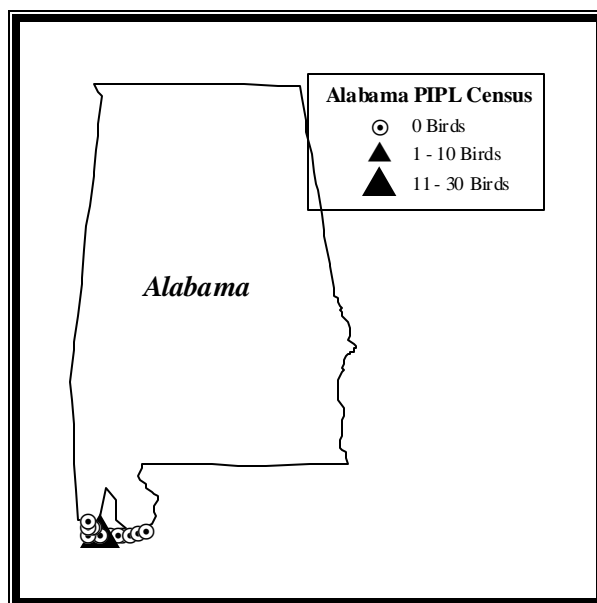
The 2001 International Piping and Snowy Plover Winter Census in Alabama

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All known Piping and Snowy Plover sites were censused in Alabama in 2001. The two main areas of Piping Plover activity are Little Dauphin Island and Pelican Island. The entire Alabama tally of 30 birds was seen on Little Dauphin Island on 26 January. About 80 percent of suitable habitat was covered in Mobile County. In Baldwin County, Piping Plovers are rare but the best potential sites to view them were covered.

One area not censused in Mobile County was a portion of Dauphin Island, from the airstrip west to the end of the development (about 6 km). It has some suitable habitat though previous surveys have not turned up any birds.

Weather could have been a factor affecting the census results. For extensive flats to be uncovered in coastal Alabama, it takes more than the astronomical tides to expose the favored feeding areas for plovers and other shorebirds. Weather fronts with moderate to strong northerly winds are needed to drive the water from Mobile Bay and bring about lower than normal tides. It is these conditions that



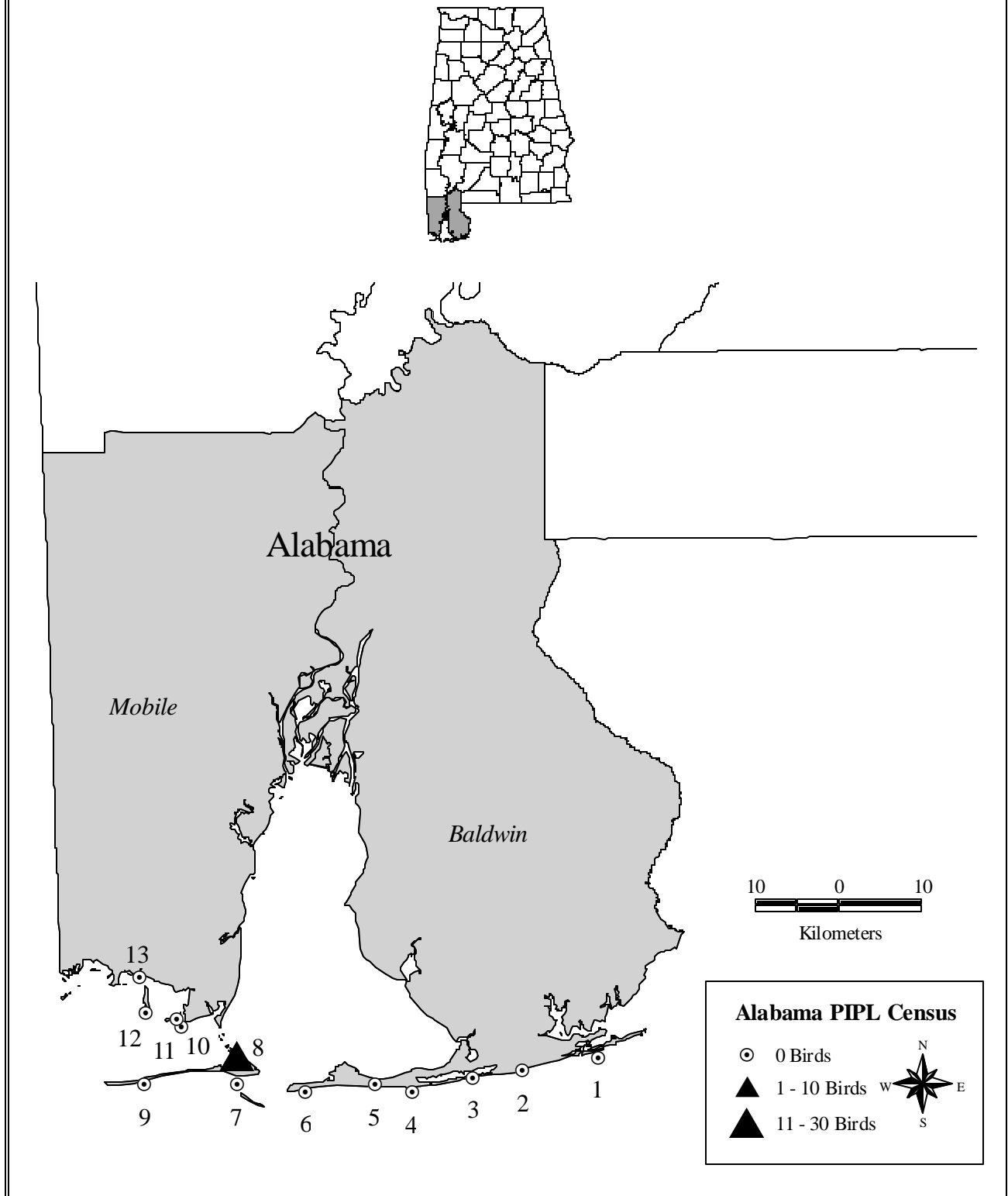
maximize the flats at the north end of Little Dauphin Island and on the northern shore of Pelican Island where Piping Plovers are found. Of special note was a tagged Piping Plover spotted on Little Dauphin Island on 22 March 2001. The bird is believed to be a captive reared bird released from South Dakota in 1998 or 2000 (Robyn Niver, pers. comm.)

No Snowy Plovers were observed at any of these sites during the census.

Other Piping Plovers observed this winter (outside of the census window) include:

DATE	SITE	PIPING PLOVERS
05 Jan 2001	Pelican Island	20 (also 1 Snowy Plover)
14 Feb 2001	Little Dauphin Isl.	5
22 Mar 2001	Pelican Island	6
22 Mar 2001	Little Dauphin Isl.	18

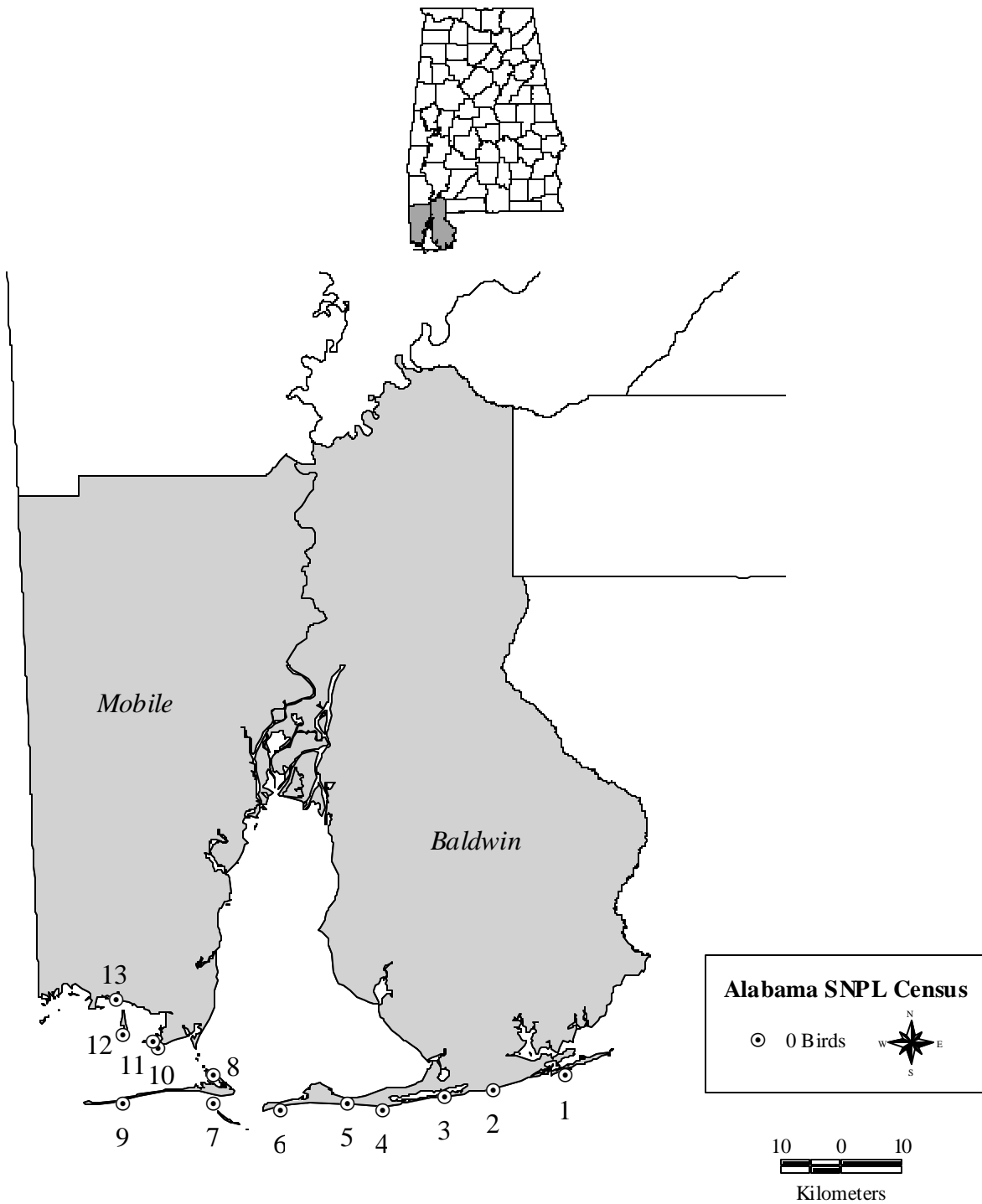
2001 International Piping Plover Winter Census - Alabama -



The 2001 International Piping and Snowy Plover Winter Census in Alabama Piping Plover Results

COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Baldwin	Fort Morgan Unit, Bon Secour NWR	6	2/08	0	1.9	I F 1,3		Yes	No	s(p)
Baldwin	Gulf State Park (between condos and beach pavilion)	2	2/08	0	1.6	I A 1		No	No	s(p)
Baldwin	Little Lagoon Pass	3	2/08	0	1.6	I,II A 1,4		No	No	m
Baldwin	Near Little Point Clear	5	2/08	0	1.6	II A 3,4		No	No	p
Baldwin	Orange Beach	1	2/07	0	4.8	I B		No	No	s(p)/p
Baldwin	Perdue Unit, Bon Secour NWR	4	2/08	0	6.5	I E,F 1,3		No	No	f
Mobile	Bayou La Batre, mouth	13	2/08	0	0.8	III A 1,8		No	No	m/p
Mobile	Cat Island	10	2/08	0	1.5	III E 1,8		No	No	p
Mobile	Dauphin Island, west end	9	2/08	0	13.7	III B 1,3,4		Yes	No	p
Mobile	Isle Aux Herbes	12	2/08	0	1.3	III E 1,7,8		No	No	p
Mobile	Little Dauphin Island	8	1/26	30	8.1	II B 1,3,4,7,8	Not specified	Yes	Yes	f
Mobile	Marsh Island	11	2/08	0	0.8	III E 1,7,8		No	No	s(p)
Mobile	Pelican Island	7	2/09	0	3.2	III B,F 1,5		Yes	Yes	s(p)
Total				30	47.4					

2001 International Piping and Snowy Plover Winter Census - Snowy Plovers in Alabama -



The 2001 International Piping and Snowy Plover Winter Census in Alabama

Snowy Plover Results

COUNTY	SITE NAME	MAP #	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWNER
Baldwin	Fort Morgan Unit, Bon Secour NWR	6	2/08	0	1.9	I F 1,3		s(p)
Baldwin	Gulf State Park (between condos and beach pavilion)	2	2/08	0	1.6	I A 1		s(p)
Baldwin	Little Lagoon Pass	3	2/08	0	1.6	I,II A 1,4		m
Baldwin	Near Little Point Clear	5	2/08	0	1.6	II A 3,4		p
Baldwin	Orange Beach	1	2/07	0	4.8	I B		s(p)/p
Baldwin	Perdue Unit, Bon Secour NWR	4	2/08	0	6.5	I E,F 1,3		f
Mobile	Bayou La Batre, mouth	13	2/08	0	0.8	III A 1,8		m/p
Mobile	Cat Island	10	2/08	0	1.5	III E 1,8		p
Mobile	Dauphin Island, west end	9	2/08	0	13.7	III B 1,3,4		p
Mobile	Isle Aux Herbes	12	2/08	0	1.3	III E 1,7,8		p
Mobile	Little Dauphin Island	8	1/26	0	8.1	II B 1,3,4,7,8		f
Mobile	Marsh Island	11	2/08	0	0.8	III E 1,7,8		s(p)
Mobile	Pelican Island	7	2/09	0	3.2	III B,F 1,5		s(p)
Total				0	47.4			

The 2001 International Piping and Snowy Plover Winter Census in Mississippi

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We censused all known sites with suitable habitat except for Cat Island and Deer Island during the 2001 International Piping and Snowy Plover Census in Mississippi. Both sites are located in Harrison County, Mississippi and constitute about 15% of known Piping Plover habitat along the Mississippi Gulf coast. These areas were not visited because of limited field assistance and poor weather conditions. It should be noted that no Piping Plovers were recorded at either site during the 1996 Winter Census but 26 Piping Plovers were recorded on Cat Island and 6 Piping Plovers were recorded on Deer Island during the 1991 Winter Census. Given the number of birds located at these sites during previous surveys, these sites should be included in the 2006 Winter Census.

Census numbers for 2001 (18 birds) were down relative to 1996 (27 birds) and 1991 (50 birds) results. The relatively low numbers for the 2001 Winter Census likely reflect a decline in suitable habitat for Piping Plovers along the mainland coastline in Mississippi. In late September 1998, Hurricane George passed near the area and removed much of the sand from the beach areas. Although there was no change in



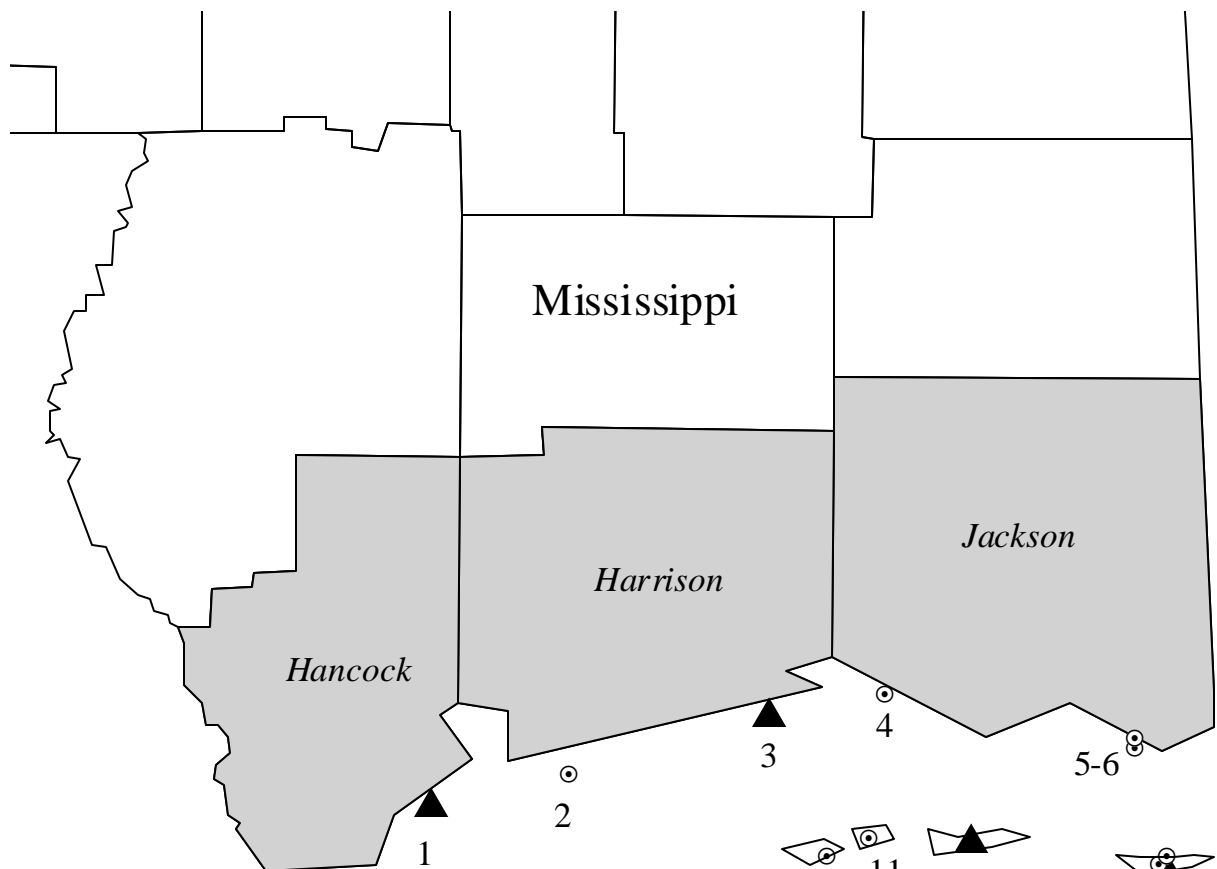
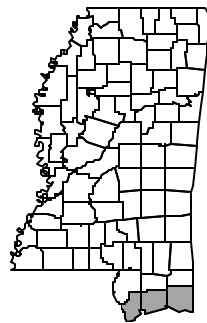
the length of shoreline habitat in coastal Mississippi after the storm, the beach extent was significantly reduced. However, after the 2001 Winter Census, beach renourishment projects were initiated and continue presently. These beach renourishment projects can provide short-term benefits to Piping Plovers in the wake of a severe storm; however, they are not considered a viable long-term management strategy.

Thirteen Snowy Plovers were counted during the census. Eleven of the thirteen were found on Horn Island.

Given the level of our survey efforts for the 2001 Winter Census, I believe these numbers accurately reflect the actual population of Piping Plovers in coastal Mississippi.

To date there has been no research into the factors influencing Piping Plover distribution along coastal Mississippi, although we have begun discussions regarding potential funding for an investigation into various factors affecting Piping Plovers, including human disturbance and prey distribution.

2001 International Piping Plover Winter Census - Mississippi -



Mississippi PIPL Census

○ 0 Birds

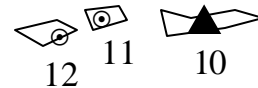
▲ 1 - 10 Birds



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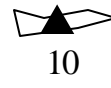
Kilometers



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11



10



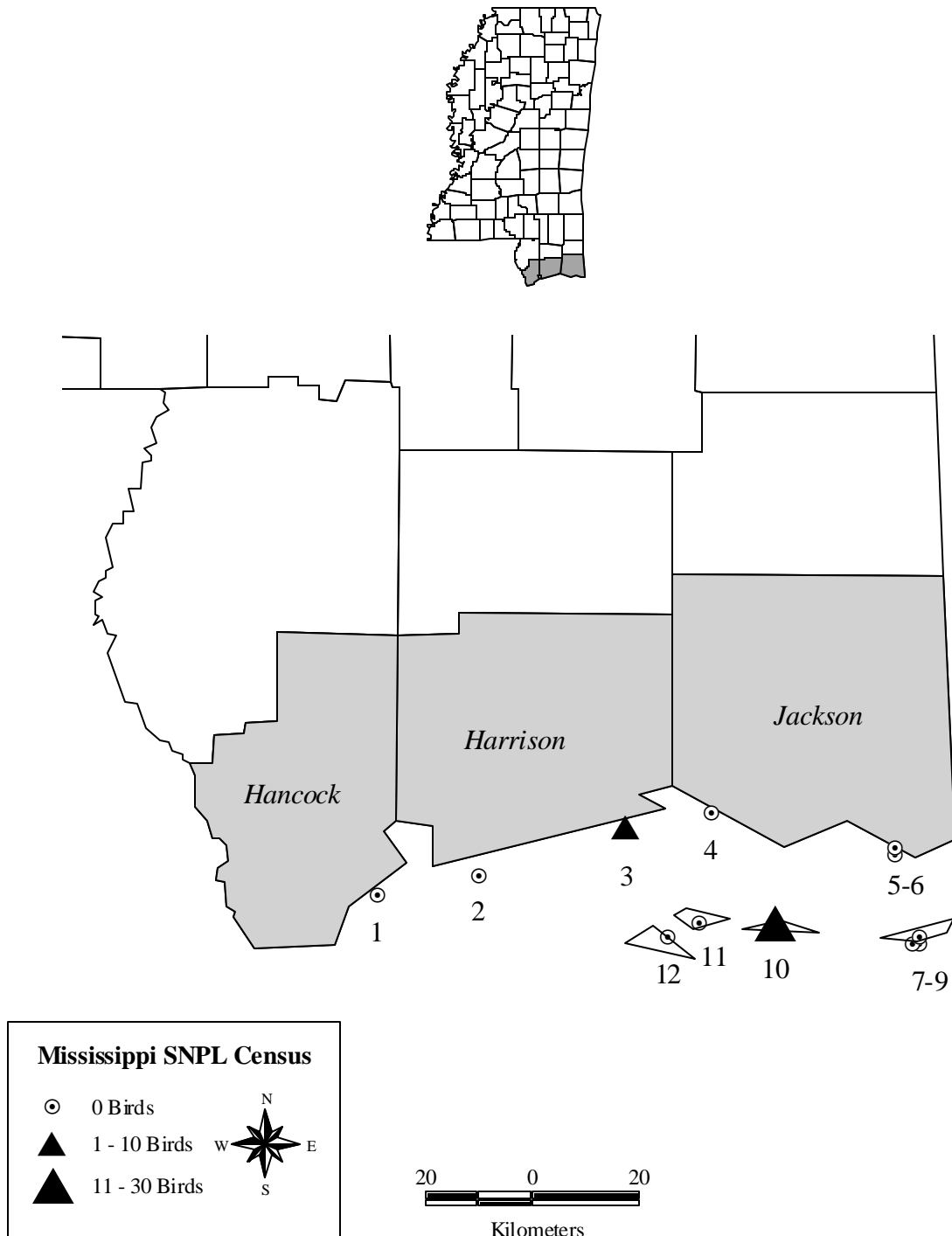
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The 2001 International Piping and Snowy Plover Winter Census in Mississippi Piping Plover Results

COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Hancock	Clermont Harbor (Waveland and Bay St. Louis Piers)	1	1/29	3	12.9	II A 1	II A 1	Yes	Yes	s(p)
Harrison	East Ship Island	11	2/09	0	11.5	I,II B,D 1,2,3,4		Yes	Yes	f
Harrison	Pass Christian Beaches	2	2/20	0	9.7	II A 1,3		No	Yes	s(p)
Harrison	Pt. Cadet to Long Beach Harbor Beaches	3	2/06	1	13.0	II A 1	II A 1	Yes	Yes	s(p)/m
Harrison	West Ship Island	12	2/09	0	13.2	I,II B,D 1,2,3,4,8		Yes	Yes	f
Jackson	Horn Island	10	2/08	10	49.5	I,II B,D 1,2,3,4	I B 3	Yes	Yes	f
Jackson	Ocean Springs Beach (East/West)	4	2/12	0	11.3	II A 1		Yes	Yes	s(p)
Jackson	Petit Bois Island	9	2/09	4	25.0	I,II,III B 1,3,8	I B 3	Yes	Yes	n.r.
Jackson	Point Aux Chenes Bay	6	2/10	0	11.0	II F 1,8		Yes	Yes	s(p)
Jackson	Round Island	8	2/09	0	3.0	I,II,III B 1,3,8		Yes	Yes	f
Jackson	Singing River Island	5	2/10	0	5.0	II F 1,8		No	Yes	s(p)
Jackson	Spoil Island	7	2/09	0	2.0	I,II,III B 1,3,8		No	Yes	f
Total				18	167.1					

n.r. = not reported

2001 International Piping and Snowy Plover Winter Census - Snowy Plovers in Mississippi -



The 2001 International Piping and Snowy Plover Winter Census in Mississippi

Snowy Plover Results

COUNTY	SITE NAME	MAP #	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWNER
Hancock	Clermont Harbor (Waveland and Bay St. Louis Piers)	1	1/29	0	12.9	II A 1		s(p)
Harrison	East Ship Island	11	2/09	0	11.5	I,II B,D 1,2,3,4		f
Harrison	Pass Christian Beaches	2	2/20	0	9.7	II A 1,3		s(p)
Harrison	Pt. Cadet to Long Beach Harbor Beaches	3	2/06	2	13.0	II A 1	II A 1	s(p)/m
Harrison	West Ship Island	12	2/09	0	13.2	I,II B,D 1,2,3,4,8		f
Jackson	Horn Island	10	2/08	11	49.5	I,II B,D 1,2,3,4	Not specified	f
Jackson	Ocean Springs Beach (East/West)	4	2/12	0	11.3	II A 1		s(p)
Jackson	Petit Bois Island	9	2/09	0	25.0	I,II,III B 1,3,8		n.r.
Jackson	Point Aux Chenes Bay	6	2/10	0	11.0	II F 1,8		s(p)
Jackson	Round Island	8	2/09	0	3.0	I,II,III B 1,3,8		f
Jackson	Singing River Island	5	2/10	0	5.0	II F 1,8		s(p)
Jackson	Spoil Island	7	2/09	0	2.0	I,II,III B 1,3,8		f
Total				13	167.1			

n.r. = not reported

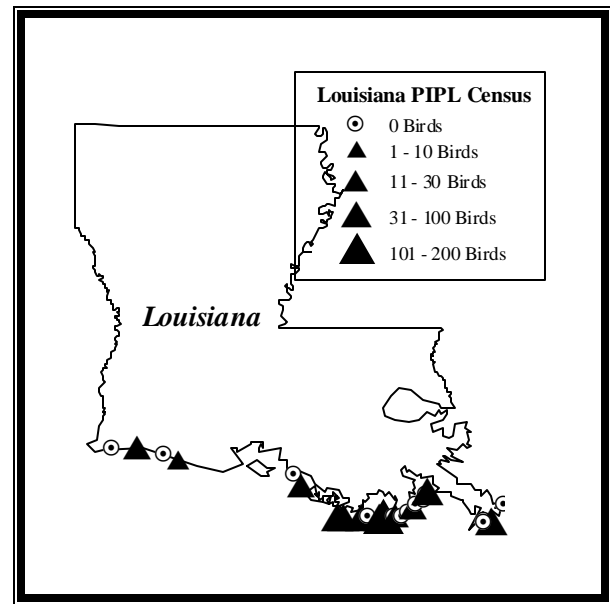
The 2001 International Piping and Snowy Plover Winter Census in Louisiana

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Twenty-three observers participated in the coast-wide census, compared to 36 in 1991 and 32 in 1996. This broke down to roughly 16 parties and 20 party-days. Roughly 125 miles of coastline was surveyed compared to 177 miles in 1991 and 163 miles in 1996. Eight boat excursions were employed to access offshore sites.

Numbers of Piping Plovers this year continued to decline on mainland sites but were up in the most important area surveyed, the Terrebonne Bay Islands. The 2001 state total might have surpassed 1991 results had the Chandeleur Islands been surveyed. The 2001 total was 511 birds compared to 750 in 1991 and 398 in 1996. Piping Plovers were found at 14 of 28 sites this year, compared to 23 of 29 sites with birds in 1991, and 13 of 31 sites in 1996. Additionally, 36 Snowy Plovers were counted during the census.

Eleven sites surveyed in past censuses were not done this year. Seven of those accounted for few birds in the past and represented relatively poor habitat. The remaining four sites not surveyed comprised the Chandeleur Island Chain. Three sites not covered in the past were censused this year: two yielded no birds, but one (Unnamed sand island between Timbalier and East Timbalier Islands) held the survey's largest concentration of 108 Piping Plovers.



The Atchafalaya Delta, Wax Lake Delta, and the various dredge spoil areas around the mouth of the Mississippi River were surveyed adequately this year and yielded 61 Piping Plovers

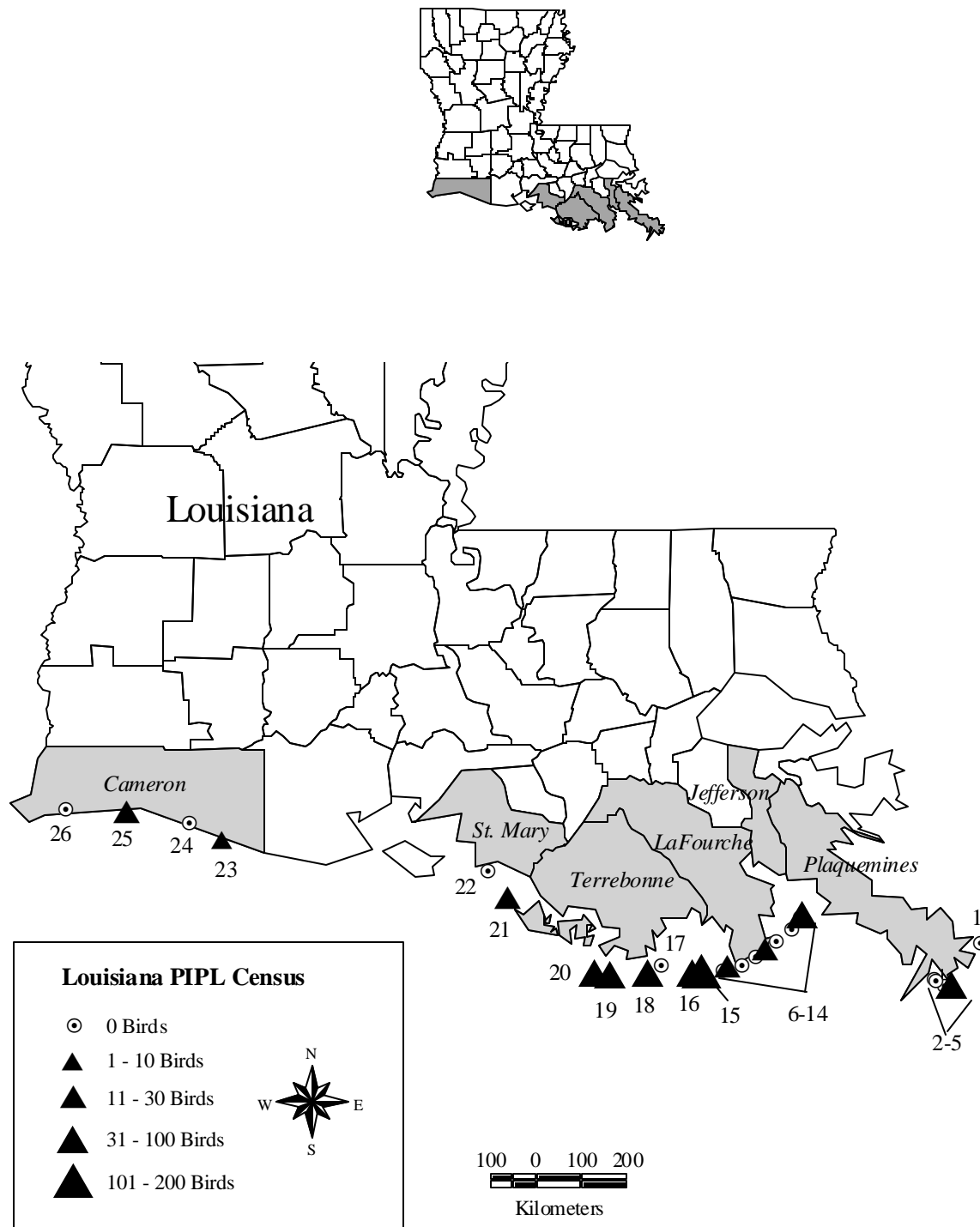
Almost every site that needed to be and could have been surveyed during the census period was visited this year with the glaring exception of the Chandeleur Islands. Over half of the 1991 total was from the Chandeleur chain. The main island was surveyed quite late in 1996 and significantly fewer birds were found. None of the island chain was surveyed this year due to lack of transportation.

The extreme difficulty of accessing the Chandeleurs in the winter must be aggressively addressed for future censuses. The Chandeleur Islands are part of the USFWS's Breton National Wildlife Refuge.

Again this year, on the barrier islands, the birds tended to be on the low, wide flats at either end or in wash-over areas. In 1998, Hurricane George cut the Chandeleurs up badly but also created more washovers. Thus, one could speculate that plover numbers might have been higher there in 2001 than in past surveys.

Mainland beaches continue to erode and appear to support ever fewer plovers.

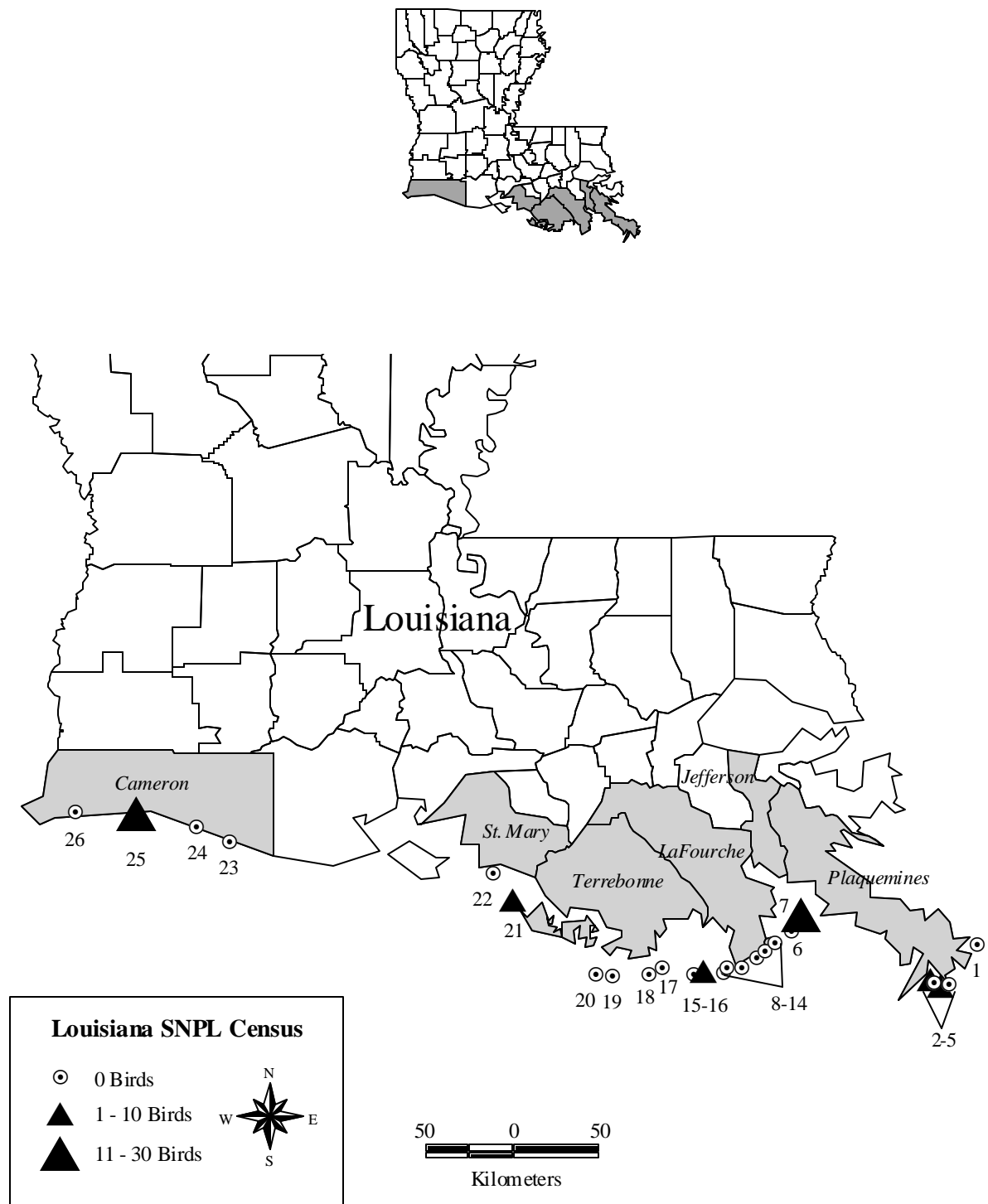
2001 International Piping Plover Winter Census - Louisiana -



The 2001 International Piping and Snowy Plover Winter Census in Louisiana Piping Plover Results

COUNTY	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Cameron	East Jetty to Rutherford Beach	25	2/03	11	22.6	I A 1,8	I A 8	Yes	Yes	s(p)
Cameron	East side of Mermentau Ship Channel	24	2/13	0	0.4	III A 2,4,8		Yes	No	p
Cameron	Rockefeller Refuge, west	23	2/05	6	16.9	III A 1	III A 1	Yes	Yes	s(p)
Cameron	Smith Bayou to West Jetty	26	2/09	0	53.2	I A 1		Yes	Yes	s(p)
Jefferson	Elmers Island	10	2/11	19	11.3	II,III A 1,3	II A 3	Yes	Yes	p
Jefferson	Grand Isle, east	8	2/04	0	4.8	III B 1,2		Yes	Yes	s(p)
Jefferson	Grand Isle, west	9	2/04	0	3.2	III B 1		Yes	Yes	s(p)
Jefferson	West Grand Terre Island	7	2/13	0	4.8	I B 1		Yes	Yes	s(p)
LaFourche	Belle Pass, west	13	2/20	18	4.8	I,II A 1,3,8	II A 3	No	Yes	s(p)
LaFourche	East Timbalier Island	14	2/13	0	4.0	I B 1,3,8		Yes	No	s(p)
LaFourche	Fourchon Beach, east	11	2/11	0	11.3	II,III A 1,3		Yes	Yes	p
LaFourche	Fourchon Beach, west	12	2/10	0	4.8	I,II A 1		Yes	Yes	p
LaFourche	Unnamed sand island between Timbalier Isl. and E. Timbalier Isl.	15	2/06	108	3.2	I B 1,2,3,4,8	I B 1,3,8	No	No	s(p)
Plaquemines	East Grand Terre Island	6	2/13	65	0.8	II B 1,2,3,4,8	II B 3,8	No	Yes	p
Plaquemines	Pass A L'outré	1	1/31	0	0.8	I B 1,2,3,4,8		No	No	s(p)
Plaquemines	South Pass, east (Pass A L'outré WMA)	2	1/31	40	0.8	I B 1,2,3,4,8	I B 2,3	No	Yes	s(p)
Plaquemines	South Pass, west #1 (Pass A L'outré WMA)	5	1/31	0	0.4	I B 1,2,3		No	No	s(p)
Plaquemines	South Pass, west #2 (Pass A L'outré WMA)	4	1/31	0	0.8	I B 1,2,3,4,8		No	Yes	s(p)
Plaquemines	South Pass, west #3 (Pass A L'outré WMA)	3	1/31	0	0.8	I B 1,2,3		No	No	s(p)
St. Mary	Atchafalaya Delta	21	2/05	21	7.3	I,II C,F 1,3,8	I C 1,3,8	Yes	Yes	s(p)
St. Mary	Wax Lake Delta	22	2/05	0	3.2	II E 8		No	Yes	s(p)
Terrebonne	Raccoon Island (Last Island)	20	2/07	32	2.4	I B 1,2,3,4,7,8	I B 3	Yes	Yes	s(p)
Terrebonne	Trinity Island/East Island	18	2/07	73	16.1	I B 1,2,3,4,8	I B 1,2,3	Yes	Yes	s(p)
Terrebonne	Whiskey Island (Central Isles Dernieres)	19	2/07	40	9.7	I B 1,2,3,4,7,8	I B 3,4,7	No	Yes	s(p)
Terrebonne	Wine Island	17	2/13	0	0.4	I E 1,3		No	No	s(p)
Terrebonne/ LaFourche	West Timbalier Island	16	2/06	78	12.9	I B 1,2,3,4,8	I B 3,8	Yes	Yes	s(p)
Total				511	201.7					

2001 International Piping and Snowy Plover Winter Census - Snowy Plovers in Louisiana -



The 2001 International Piping and Snowy Plover Winter Census in Louisiana

Snowy Plover Results

COUNTY	SITE NAME	MAP #	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWNER
Cameron	East Jetty to Rutherford Beach	25	2/03	11	22.6	I A 1,8	I A 8	s(p)
Cameron	East side of Mermentau Ship Channel	24	2/13	0	0.4	III A 2,4,8		p
Cameron	Rockefeller Refuge, west	23	2/05	0	16.9	III A 1		s(p)
Cameron	Smith Bayou to West Jetty	26	2/09	0	53.2	I A 1		s(p)
Jefferson	Elmers Island	10	2/11	0	11.3	II,III A 1,3		p
Jefferson	Grand Isle, east	8	2/04	0	4.8	III B 1,2		s(p)
Jefferson	Grand Isle, west	9	2/04	0	3.2	III B 1		s(p)
Jefferson	West Grand Terre Island	7	2/13	0	4.8	I B 1		s(p)
LaFourche	Belle Pass, west	13	2/20	0	4.8	I,II A 1,3,8		s(p)
LaFourche	East Timbalier Island	14	2/13	0	4.0	I B 1,3,8		s(p)
LaFourche	Fourchon Beach, east	11	2/11	0	11.3	II,III A 1,3		p
LaFourche	Fourchon Beach, west	12	2/10	0	4.8	I,II A 1		p
LaFourche	Unnamed sand island between Timbalier and East Timbalier Islands	15	2/06	2	3.2	I B 1,2,3,4,8	I B 1	s(p)
Plaquemines	East Grand Terre Island	6	2/13	15	0.8	II B 1,2,3,4,8	II B 1,3	p
Plaquemines	Pass A L'outre	1	1/31	0	0.8	I B 1,2,3,4,8		s(p)
Plaquemines	South Pass, east (Pass A L'outre WMA)	2	1/31	0	0.8	I B 1,2,3,4,8		s(p)
Plaquemines	South Pass, west #1 (Pass A L'outre WMA)	5	1/31	0	0.4	I B 1,2,3		s(p)
Plaquemines	South Pass, west #2 (Pass A L'outre WMA)	4	1/31	6	0.8	I B 1,2,3,4,8	I B 3	s(p)
Plaquemines	South Pass, west #3 (Pass A L'outre WMA)	3	1/31	1	0.8	I B 1,2,3	I B 3	s(p)
St. Mary	Atchafalaya Delta	21	2/05	1	7.3	I,II C,F 1,3,8	I C 3,8	s(p)
St. Mary	Wax Lake Delta	22	2/05	0	3.2	II E 8		s(p)
Terrebonne	Raccoon Island (Last Island)	20	2/07	0	2.4	I B 1,2,3,4,7,8		s(p)
Terrebonne	Trinity Island/East Island	18	2/07	0	16.1	I B 1,2,3,4,8		s(p)
Terrebonne	Whiskey Island (Central Isles Dernieres)	19	2/07	0	9.7	I B 1,2,3,4,7,8		s(p)
Terrebonne	Wine Island	17	2/13	0	0.4	I E 1,3		s(p)
Terrebonne/LaFourche	West Timbalier Island	16	2/06	0	12.9	I B 1,2,3,4,8		s(p)
Total				36	201.7			

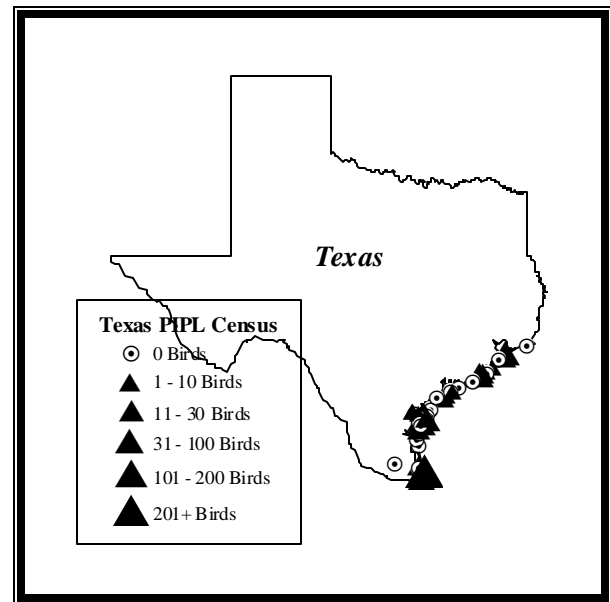
The 2001 International Piping and Snowy Plover Winter Census on the Upper Texas Coast

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2001 plover totals for the upper Texas coast region were 120 Piping Plovers and 147 Snowy Plovers.

Weather conditions during the census period included moderate to extremely low tides over the entire upper Texas coast. High pressure and a series of weather fronts brought strong northerly to northwesterly winds. The last day of the survey period (February 12th) had more normal tides and several censusers repeated their surveys to take advantage of these conditions. Extreme low tides evidently cause many shorebirds to leave the easily-censused Gulf beaches and tidal passes and feed on the vast exposed mudflats and oyster reefs in mid and upper bay areas.



However, even in cases where censusers are able to arrange for transportation to back-island and back-bay areas, the huge expanses of exposed and very shallow habitat are often simply too large to adequately cover. Thus, Gulf beach and tidal pass coverage was good to excellent, while bay and river delta coverage was considered fair to poor.

As has been the case in recent years, upper Texas coast Piping Plovers seem to concentrate at a few key areas, usually near tidal pass sand deltas. This year's greatest aggregation was at Bolivar Flats (53), on the north side of Bolivar Road into Galveston Bay, with a smaller aggregation (15) at Big Reef, on the south Bolivar Road shoreline. Another large aggregation (35) was at Sargent Beach, west of the San Bernard River delta. Twelve (12) Piping Plovers (plus 62 Snowy Plovers) were seen on Wolf Island, the 3½-mile sandbar between the mouths of the Brazos and San Bernard Rivers.

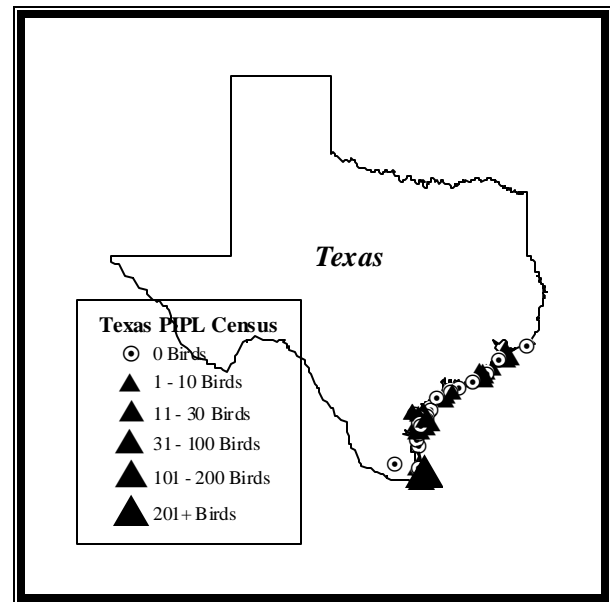
The 2001 International Piping and Snowy Plover Winter Census on the Central Texas Coast

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Between 27 January and 6 March 2001, a count of wintering Piping and Snowy Plovers was undertaken in the central portion of the Texas coast as part of the 3rd International Piping Plover Census. The census focused on areas of habitat suitable for Piping Plovers, however, Snowy Plovers found during the census were included in the count, per international instructions.

Late census dates were largely due to poor weather conditions (high wind and fog) that predominated during much of the 2-week count window. A number of the important central-coast sites can be reached only by boat, therefore inclement weather was a major delaying factor.

Thirty-three individuals participated in the Texas mid-coast census, which covered the region from the Matagorda-Calhoun County line on the northern edge of the region to the middle of the Land Cut in the Laguna Madre (Kenedy County). This portion of the Texas coast encompasses four major bays, San Antonio, Aransas, Corpus Christi and the Upper Laguna Madre, along with several secondary and tertiary bays. A total of 277 Piping Plovers and 340 Snowy Plovers were counted throughout the mid-coast region across approximately 379 miles of bay and Gulf of Mexico shoreline.



The total number of Piping Plovers counted during the 2001 census is considerably lower than the 933 or 611 counted in 1991 and 1996, respectively. It is likely that lower numbers are related to the low water levels in the bays at the time of the census, although some birds may have been missed in areas of the region that did not get covered.

The 2001 census coverage was not as extensive for some of the mainland shorelines as in the previous two censuses. However the majority of effort this year was focused on areas where plovers were found in prior years. There is considerable habitat along the central Texas coast suitable for Piping Plovers, but the seasonal low tides of winter left vast expanses of exposed mud and sand flats, algal mat, oyster shell banks, sand spits and bars. Thus good coverage of the region was hard to accomplish.

During the 2000-2001 winter, the seasonal low tide persisted for an extraordinary length of time, in fact even continuing into March. There are two pertinent consequences of the long-term low water levels on census results: 1) the amount of exposed mud and sand flats, shell reefs, and other generally submerged habitat increases throughout all the bay systems; 2) much of the wind-tidal flat habitat dries out and becomes unsuitable until such time as wind changes push water across flats or the water

levels rise again. A good example of this phenomenon is seen at the bayside flats for San Jose Island. The flats surrounding “North Pass” on the Aransas Bay shoreline of San Jose Island hosted 209 and 274 Piping Plovers in 1991 and 1996, respectively. During this census no Piping Plovers were located at this site, although 46 Snowy Plovers were observed. The individuals who surveyed this site indicated that the flats were totally dry on the census date in February, with cracked and turned up algal mat, thus suitable for Snowy Plovers but not necessarily for Piping Plovers. These individuals said 120+ Piping Plovers were seen at this site during the December Christmas Bird Count approximately two months earlier but that the flats had probably been dry since the end of December (J. Holt, pers. comm.).

Several other observations were noteworthy. Piping Plovers were grouped or distributed in a clumped fashion at the sites where large numbers of birds were located. Even though much of the nearby habitat seemed appropriate Piping Plovers were concentrated in small patches where large numbers of other shorebird species had also assembled. All shorebirds appeared to be foraging at these areas, not simply using them as roosting sites. Also, of 277 Piping Plovers seen in the 2001 Census, only 11 (4%) were found on the Gulf beach even though survey coverage of the beach was almost 100% for the entire Gulf shoreline within the mid-coast. This is likely due to increased habitat availability in the bays. Lastly, at two of

the three sites in the Upper Laguna Madre where the largest concentrations of Piping Plovers were found (123 and 24 birds), they were using habitat that is generally shallowly submerged and which became emergent due to the seasonally low water levels.

In conclusion, there is no comprehensive explanation for the greatly reduced number of Piping Plovers reported for the Texas mid-coast. Part of the reason lies in inadequate coverage of some habitat, especially along the mainland shorelines but these areas have not proven overly productive in past surveys. It is unknown whether colder temperatures this winter contributed in any way to a lower abundance of Piping Plovers, but the more extreme weather conditions may have pushed the birds further south. The extended period of low water levels in the bays is likely to have been the most significant factor influencing Piping Plover numbers in the mid-coast region, however it may not be simply a matter of too much habitat to survey. For example, surveys in the Upper Laguna Madre covered a majority of the available bay habitat except for the mainland shoreline, yet Piping Plovers were found at only three sites, at which they were grouped over a small area among a diverse assemblage of other shorebirds. At least two participants in this census voiced opinions that much of the mid-coast’s typical Piping Plover habitat (wind-tidal flats) had been dry for an extended enough period of time that the birds had moved in search of more recently wetted flats.

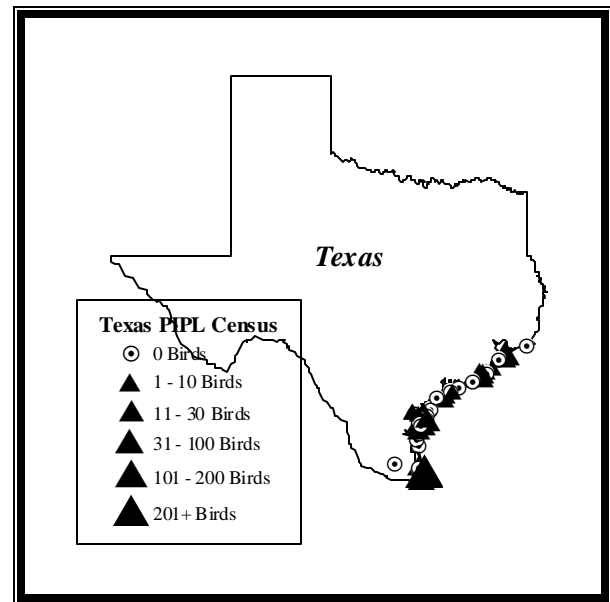
The 2001 International Piping and Snowy Plover Winter Census in Lower Texas Coast

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I think we had a better than ever idea of where to locate Piping Plovers for this years census. We were able to make good use of information accumulated from previous International Censuses and numerous studies conducted in Laguna Madre over the past several years.

I do not think we missed any known areas, however, we did not spend as much time censusing South Padre Island city parcels as in years past. In addition, future surveys may need to focus on the Bahia Grande area. We touched on that area this year, but a 5,000-acre wetland rehabilitation project should be completed by the next census and will need further investigation.

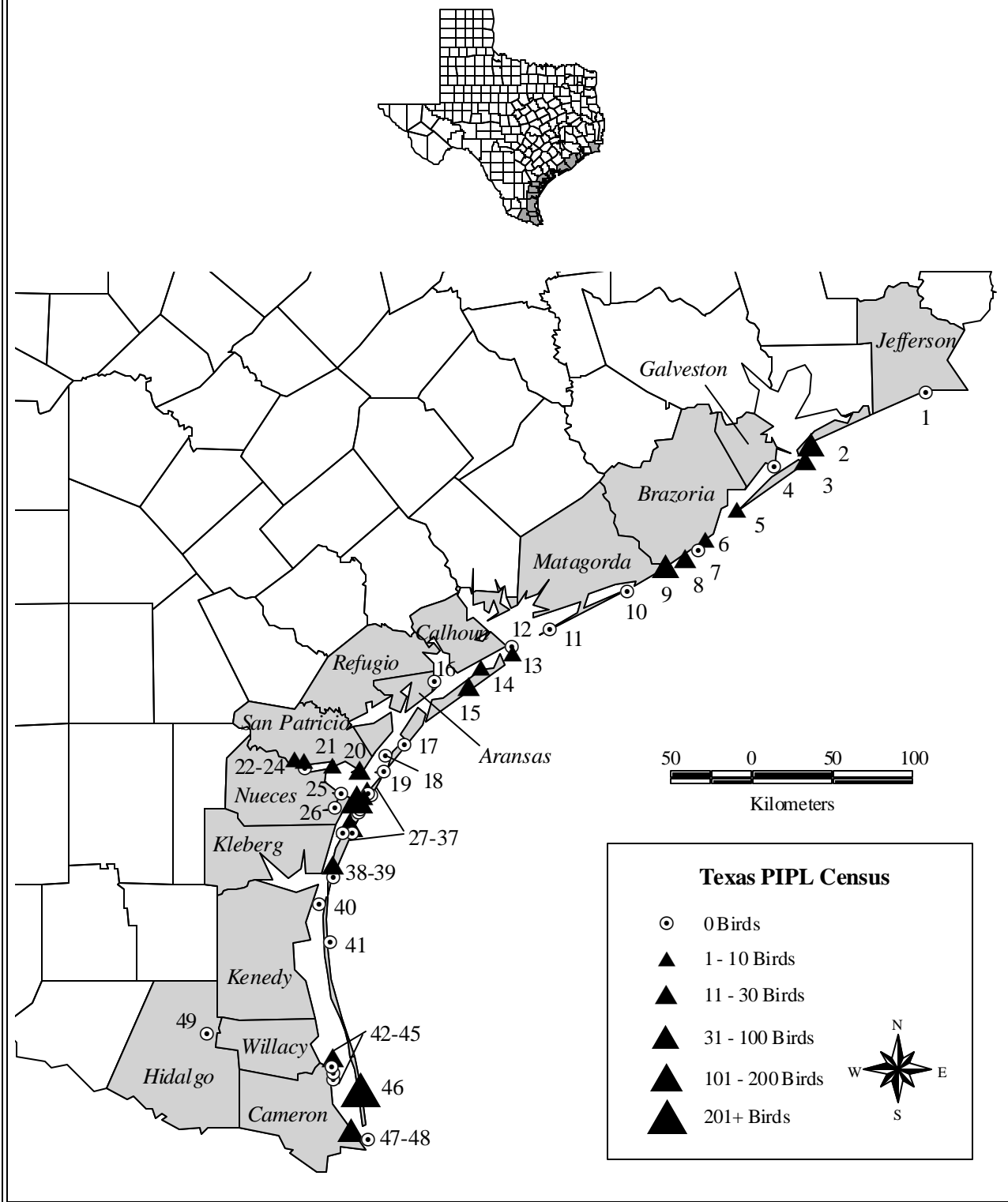
Our numbers were up from previous censuses,



as has been the trend for the Lower Laguna Madre. Numbers from this year more closely represent the areas' population than in years past. We have learned where to look for birds, although I still think we missed some birds. In years past we have had good numbers in South Bay. We did not find any birds there this year although our coverage could have been better. It is possible that we counted those birds on South Padre Island instead, but my intuition is that we missed them.

I think weather and tides affected Piping Plover habitat selection and movements in the Lower Laguna Madre. Thus, may impact our ability to find them and also affect their susceptibility to disturbance.

2001 International Piping Plover Winter Census - Texas -



The 2001 International Piping and Snowy Plover Winter Census in Texas Piping Plover Results

COUNTY	SITE NAME	MAP#	DATE	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Aransas	San Jose Island bayside, south/Harbor Island (CTX1)	18	2/18	0	14.0	II B,E 8,9,10		Yes	Yes	s(p)
Aransas	San Jose Island, Gulf beach (CTX2)	17	2/04	0	29.0	I B 1		Yes	Yes	p
Aransas/Calhoun	Aransas National Wildlife Refuge (CTX4)	16	2/05	0	3.2	II A 3,10		Yes	Yes	f
Brazoria	Follets Island	6	2/05	4	22.6	I B 1	I B 1	Yes	Yes	s(p)
Brazoria	Quintana Beach to Bryan Beach State Park	7	2/05	0	9.7	I A 1		Yes	Yes	s(p)
Brazoria	Wolf Island	8	2/02	12	6.5	I B 1,8	I B 1,8	Yes	Yes	s(p)/p
Calhoun	Gulf Intracoastal Waterway (Port O'Conner to San Antonio Bay) (CTX5)	14	2/06	1	27.4	III A,C 1,2,3,8	III C 8	Yes	No	f
Calhoun	Matagorda Island NWR (CTX3)	15	2/02	11	72.6	III B 1,4,8	III B 1	Yes	Yes	f/s(p)
Calhoun	Welder Flats Coastal Preserve (CTX6)	n.p.	1/27	2	2.4	II A 8	II A 8	No	No	p
Cameron	Buena Vista Ranch	45	2/09	0	4.8	II A 3,8		Yes	Yes	p
Cameron	Laguna Atascosa NWR Bayside Drive	43	2/07	0	17.7	II A 1,8,10		Yes	Yes	f
Cameron	San Martin Lake & Bahia Grande area	47	2/10	31	16.1	II A 3,10	II A 3	No	Yes	f
Cameron	South Bay/Boca Chica Beach	48	2/09	0	48.4	II,III A 1,3,8		Yes	Yes	f/s(p)/p
Cameron	South Padre Island	46	2/14	603	80.6	II,III B 1,3,8	II B 8	Yes	Yes	f/s(p)/p
Cameron	Unit 4, Laguna Atascosa NWR	42	2/07	11	16.1	II A 3,8,9,11	II A 8	No	Yes	f/s(p)/p
Cameron	Unit 5, (Horse Island Cove) Laguna Atascosa NWR	44	2/09	0	16.1	II A,E 8,9		No	Yes	f
Galveston	Big Reef; Galveston Island	3	2/12	15	1.6	II B 1,3	II B 3	Yes	Yes	s(p)/m
Galveston	Galveston Beach	4	2/05	0	32.3	I B 1		Yes	Yes	s(p)/m
Galveston	High Island to Bolivar Flats	2	2/06	53	46.8	II,III B 1,8	III B 1	Yes	Yes	s(p)
Galveston	San Luis Pass; Galveston Island	5	2/12	1	2.4	II B 3	II B 3	Yes	Yes	s(p)
Hidalgo/Willacy	East Lake (Sal Vieja, Sal Del Ray)	49	2/05	0	16.1	III A 1,6		Yes	No	f
Jefferson	McFaddin NWR; Sabine Pass to High Island	1	2/09	0	32.3	I A 1,8,11		Yes	Yes	f/s(p)/p
Kenedy	Gulf Intracoastal Waterway (Portrero Farias to Baffin Bay) (CTX8)	40	2/14	0	27.7	III A,B,C 3,8		Yes	No	s(p)
Kleberg	Padre Island National Seashore, north bayside (algal flat) (CTX11)	35	2/08	69	4.0	II B 3,9	II B 3,9	Yes	Yes	f
Kleberg	Upper Laguna Madre (South Bird Island to Baffin Bay) (CTX10)	38	2/06	24	16.0	II C 4,8,11	II C 11	No	Yes	f/s(p)
Kleberg/Kenedy	Padre Island National Seashore, bayside (CTX9)	39	2/12	0	45.2	II B,C 8,9		Yes	Yes	f
Kleberg/Kenedy/ Willacy	Padre Island National Seashore, gulf beach (CTX7)	41	2/07	0	104.8	I B 1,11		Yes	Yes	f
Matagorda	Decros Point (CTX27 & CTX28)	13	3/06	6	12.6	I,II B 1,3,8	II B 3,8	Yes	No	s(p)/p
Matagorda	North Matagorda Peninsula Beach	10	2/07	0	35.5	I,II B 1,8,11		Yes	Yes	s(p)
Matagorda	Sargent Beach	9	2/01	35	17.7	I,II A 1,8,10	II A 1,8	Yes	Yes	f/s(p)
Matagorda	South Matagorda Peninsula Beach	11	2/12	0	40.3	III B 1		Yes	Yes	p

The 2001 International Piping Plover Winter Census in Texas

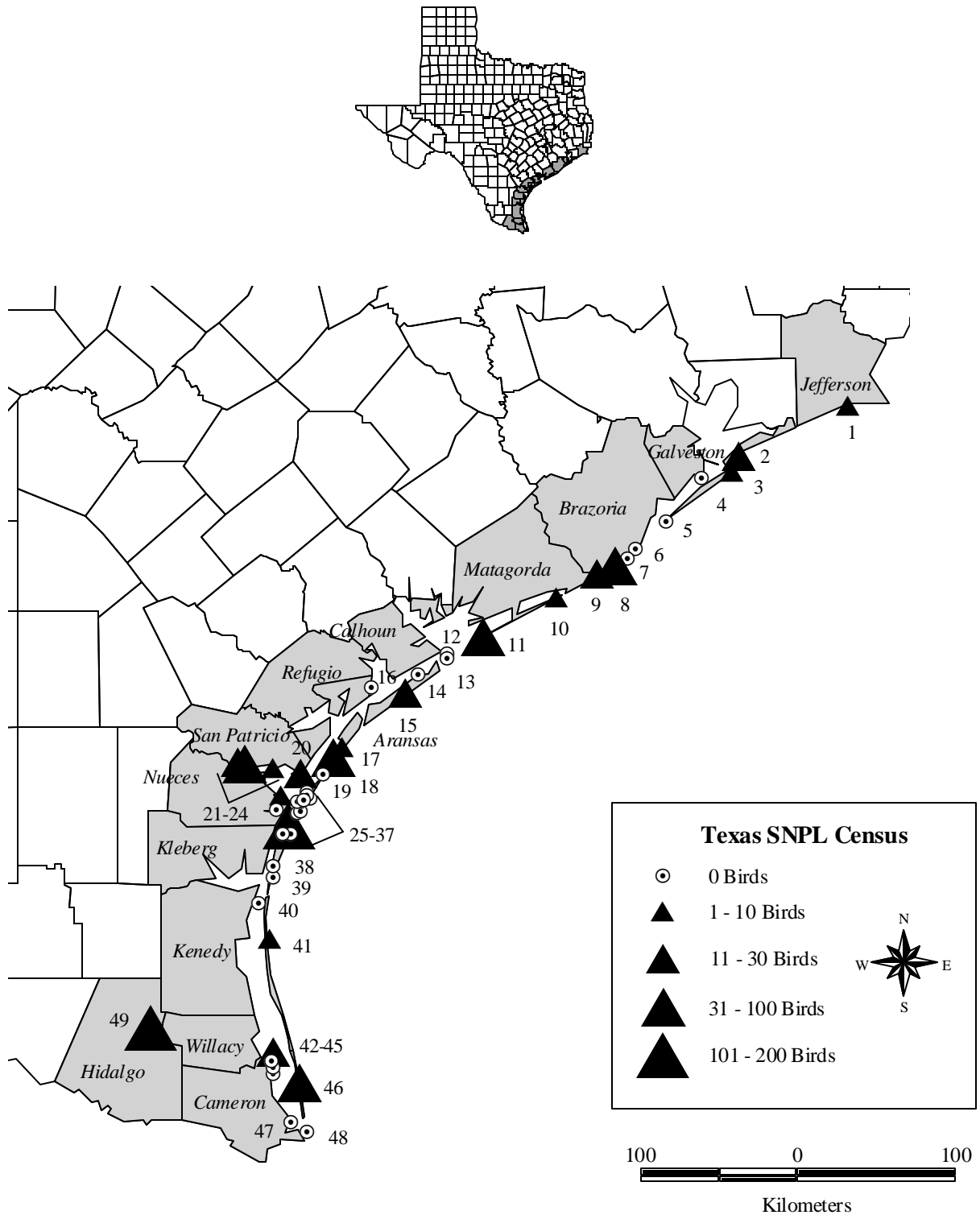
Piping Plover Results(Continued)

COUNTY	SITE NAME	MAP#	DATE	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Matagorda	Sundown Island (Matagorda Bay) (CTX26)	12	2/02	0	1.2	II C 1,2,3		No	No	f
Nueces	Aransas Pass/Port Aransas Causeway (CTX12)	19	2/12	0	12.1	II B,F 1,7,8,9		Yes	Yes	s(p)/m
Nueces	Koch Wildlife Learning Preserve (CTX24A)	24	2/07	0	1.6	II A 3		No	No	p
Nueces	Laguna Madre, upper (GIWW north of JFK Causeway) (CTX20)	32	2/05	123	28.5	II B,C,D,F 3,8,11	II D 11	Yes	Yes	s(p)
Nueces	Mollie Beattie (Packery Channel to 1852 Pass) (CTX16)	34	2/05	0	3.2	II B 9		Yes	Yes	s(p)
Nueces	Mollie Beattie (south Newport Pass to north side of CC Pass) (CTX17)	33	2/05	0	2.7	II B 9		No	No	s(p)
Nueces	Mustang Island State Park, bayside (CTX12A)	30	2/12	8	2.7	II B 3	II B 3	No	Yes	s(p)
Nueces	Mustang Island, bayside (Fish Pass to Pelican Island) (CTX14)	27	2/13	2	41.9	II C 3	n.r.	Yes	Yes	s(p)
Nueces	Mustang Island, bayside (north Corpus Christi Pass to south Fish Pass) (CTX18)	31	2/05	0	5.3	II B 9		Yes	Yes	s(p)
Nueces	Mustang Island, bayside (north of Fish Pass) (CTX19)	28	2/05	0	2.7	II B 9		Yes	Yes	s(p)
Nueces	Mustang Island, gulf beach (CTX15A)	29	2/05	0	21.0	I B 1		Yes	Yes	s(p)
Nueces	Oso Bay, upper (Mud Bridge) (CTX22)	26	n.r.	0	6.5	II,III A 8,9,10		Yes	Yes	s(p)
Nueces	Redfish Bay/Ingleside Point (CTX13)	20	2/11	26	41.9	II A,C,D,E 1,2,3,4,6,8	II A,C,D 1,3,8	Yes	Yes	s(p)
Nueces	Ward Island (CTX21)	25	2/10	0	1.0	II,III E 8,9,10		Yes	No	m
Nueces/Kleberg	Padre Island, north gulf beach (CTX15B)	36	2/05	0	22.6	I B 1		Yes	Yes	s(p)
Nueces/Kleberg	Upper Laguna Madre (islands between S. Bird Isl. and Pita Isl. Channel) (CTX10A)	37	2/06	0	38.4	II C 4,5,8,9		Yes	Yes	s(p)
San Patricio	Indian Point and Sunset Lake (CTX23)	21	2/01	3	7.9	II A 1,2,3,7	II A 1,2,3,7	Yes	Yes	m
San Patricio/ Nueces	Nueces Delta (near Allison wastewater treatment plant discharge) (CTX25)	23	2/01	1	4.7	III A 8	III A 8	No	No	p
San Patricio/ Nueces	Tule Lake (east of White's Point, Nueces Delta mitigation site) (CTX24)	22	2/14	1	6.6	II,III A,F 5,8,9,10	II A 5,8	No	Yes	p
Total				1042	1075.0					

n.r. = not reported

n.p. = not published

2001 International Piping and Snowy Plover Winter Census - Snowy Plovers in Texas -



The 2001 International Piping and Snowy Plover Winter Census in Texas

Snowy Plover Results

COUNTY	SITE NAME	MAP #	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWN
Aransas	San Jose Island bayside, south/Harbor Island (CTX1)	18	2/18	46	14.0	II B,E 8,9,10	Not specified	s(p)
Aransas	San Jose Island, Gulf beach (CTX2)	17	2/04	8	29.0	I B 1	I B 1	p
Aransas/Calhoun	Aransas National Wildlife Refuge (CTX4)	16	2/05	0	3.2	II A 3,10		f
Brazoria	Follets Island	6	2/05	0	22.6	I B 1		s(p)
Brazoria	Quintana Beach to Bryan Beach State Park	7	2/05	0	9.7	I A 1		s(p)
Brazoria	Wolf Island	8	2/02	62	6.5	I B 1,8	I B 1,8	s(p)/p
Calhoun	Gulf Intracoastal Waterway (Port O'Conner to San Antonio Bay) (CTX5)	14	2/06	0	27.4	III A,C 1,2,3,8		f
Calhoun	Matagorda Island NWR (CTX3)	15	2/02	28	72.6	III B 1,4,8	III B 1,8	f/s(p)
Calhoun	Welder Flats Coastal Preserve (CTX6)	n.p.	1/27	28	2.4	II A 8	II A 8	p
Cameron	Buena Vista Ranch	45	2/09	0	4.8	II A 3,8		p
Cameron	Laguna Atascosa NWR Bayside Drive	43	2/07	0	17.7	II A 1,8,10		f
Cameron	San Martin Lake & Bahia Grande area	47	2/10	0	16.1	II A 3,10		f
Cameron	South Bay/Boca Chica Beach	48	2/09	0	48.4	II,III A 1,3,8		f/s(p)/p
Cameron	South Padre Island	46	2/14	35	80.6	II,III B 1,3,8	II B 8	f/s(p)/p
Cameron	Unit 4, Laguna Atascosa NWR	42	2/07	24	16.1	II A 3,8,9,11	II A 3,8	f/s(p)/p
Cameron	Unit 5, (Horse Island Cove) Laguna Atascosa NWR	44	2/09	0	16.1	II A,E 8,9		f
Galveston	Big Reef; Galveston Island	3	2/12	10	1.6	II B 1,3	II B 3	s(p)/m
Galveston	Galveston Beach	4	2/05	0	32.3	I B 1		s(p)/m
Galveston	High Island to Bolivar Flats	2	2/06	17	46.8	II,III B 1,8	III B 1	s(p)
Galveston	San Luis Pass; Galveston Island	5	2/12	0	2.4	II B 3		s(p)
Hidalgo/Willacy	East Lake (Sal Vieja, Sal Del Ray)	49	2/05	144	16.1	III A 1,6	III A 6	f
Jefferson	McFaddin NWR; Sabine Pass to High Island	1	2/09	1	32.3	I A 1,8,11	I A 8	f/s(p)/p
Kenedy	Gulf Intracoastal Waterway (Portrero Farias to Baffin Bay) (CTX8)	40	2/14	0	27.7	III A,B,C 3,8		s(p)
Kleberg	Padre Island National Seashore, north bayside (algal flat) (CTX11)	35	2/08	121	4.0	II B 3,9	II B 3,9	f
Kleberg	Upper Laguna Madre (South Bird Island to Baffin Bay) (CTX10)	38	2/06	0	16.0	II C 4,8,11		f/s(p)
Kleberg/Kenedy	Padre Island National Seashore, bayside (CTX9)	39	2/12	0	45.2	II B,C 8,9		f
Kleberg/ Kenedy/Willacy	Padre Island National Seashore, gulf beach (CTX7)	41	2/07	4	104.8	I B 1,11	I B 1	f
Matagorda	Decros Point (CTX27 & CTX28)	13	3/06	0	12.6	I,II B 1,3,8		s(p)/p
Matagorda	North Matagorda Peninsula Beach	10	2/07	1	35.5	I,II B 1,8,11	II B 8	s(p)

The 2001 International Piping and Snowy Plover Winter Census in Texas

Snowy Plover Results (Continued)

COUNTY	SITE NAME	MAP #	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWN
Matagorda	Sargent Beach	9	2/01	16	17.7	I,II A 1,8,10	II A 1,8	f/s(p)
Matagorda	South Matagorda Peninsula Beach	11	2/12	40	40.3	III B 1	III B 1	p
Matagorda	Sundown Island (Matagorda Bay) (CTX26)	12	2/02	0	1.2	II C 1,2,3		f
Nueces	Aransas Pass/Port Aransas Causeway (CTX12)	19	2/12	0	12.1	II B,F 1,7,8,9		s(p)/m
Nueces	Koch Wildlife Learning Preserve (CTX24A)	24	2/07	0	1.6	II A 3		p
Nueces	Laguna Madre, upper (GIWW north of JFK Causeway) (CTX20)	32	2/05	0	28.5	II B,C,D,F 3,8,11		s(p)
Nueces	Mollie Beattie (Packery Channel to 1852 Pass) (CTX16)	34	2/05	0	3.2	II B 9		s(p)
Nueces	Mollie Beattie (south Newport Pass to north side of Corpus Christi Pass) (CTX17)	33	2/05	0	2.7	II B 9		s(p)
Nueces	Mustang Island State Park, bayside (CTX12A)	30	2/12	0	2.7	II B 3		s(p)
Nueces	Mustang Island, bayside (Fish Pass to Pelican Island) (CTX14)	27	2/13	0	41.9	II C 3		s(p)
Nueces	Mustang Island, bayside (north Corpus Christi Pass to south Fish Pass) (CTX18)	31	2/05	0	5.3	II B 9		s(p)
Nueces	Mustang Island, bayside (north of Fish Pass) (CTX19)	28	2/05	0	2.7	II B 9		s(p)
Nueces	Mustang Island, gulf beach (CTX15A)	29	2/05	0	21.0	I B 1		s(p)
Nueces	Oso Bay, upper (Mud Bridge) (CTX22)	26	n.r.	0	6.5	II,III A 8,9,10		s(p)
Nueces	Redfish Bay/Ingleside Point (CTX13)	20	2/11	29	41.9	II A,C,D,E 1,2,3,4,6,8	II A,C 1,3	s(p)
Nueces	Ward Island (CTX21)	25	2/10	1	1.0	II,III E 8,9,10	II, III E 8	m
Nueces/Kleberg	Padre Island, north gulf beach (CTX15B)	36	2/05	0	22.6	I B 1		s(p)
Nueces/Kleberg	Upper Laguna Madre (islands between S. Bird Island and Pita Island Channel) (CTX10A)	37	2/06	0	38.4	II C 4,5,8,9		s(p)
San Patricio	Indian Point and Sunset Lake (CTX23)	21	2/01	1	7.9	II A 1,2,3,7	II A 1,2,3,7	m
San Pat/Nueces	Nueces Delta (near Allison wastewater treatment plant discharge) (CTX25)	23	2/01	20	4.7	III A 8	III A 8	p
San Pat/Nueces	Tule Lake (east of White's Point, Nueces Delta mitigation site) (CTX24)	22	2/14	54	6.6	II,III A,F 5,8,9,10	III A 5,8	p
Total				690	1075.0			

n.r. = not reported

n.p. = not published

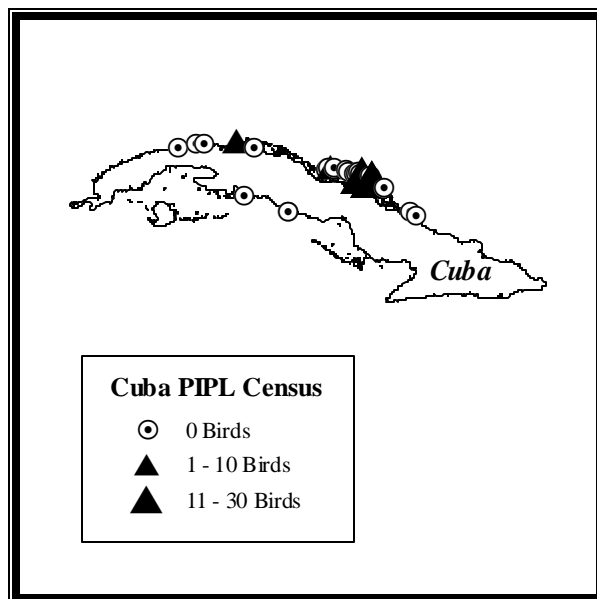
The 2001 International Piping and Snowy Plover Winter Census in Cuba

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The census was conducted from 29 January to 17 February 2001. A total of 105 km of beach at 29 sites in seven provinces was covered. The length of beach covered was comparable to the 106 km covered during the 1996 census; however, the list of beaches visited in 2001 differed somewhat from the 1996 list. All locations where plovers were observed in 1996 were again visited in 2001.

In 2001, 55 Piping Plovers were counted, down from the 66 birds observed in 1996. As in 1996, the islands situated in the center of the Sabana-Camagüey Archipelago, i.e., Cayo Coco, Cayo Paredón Grande and Cayo Antón, were the most important wintering region for Piping Plovers in Cuba. Some 46 birds, or 83% of the total number counted, were sighted in this archipelago.

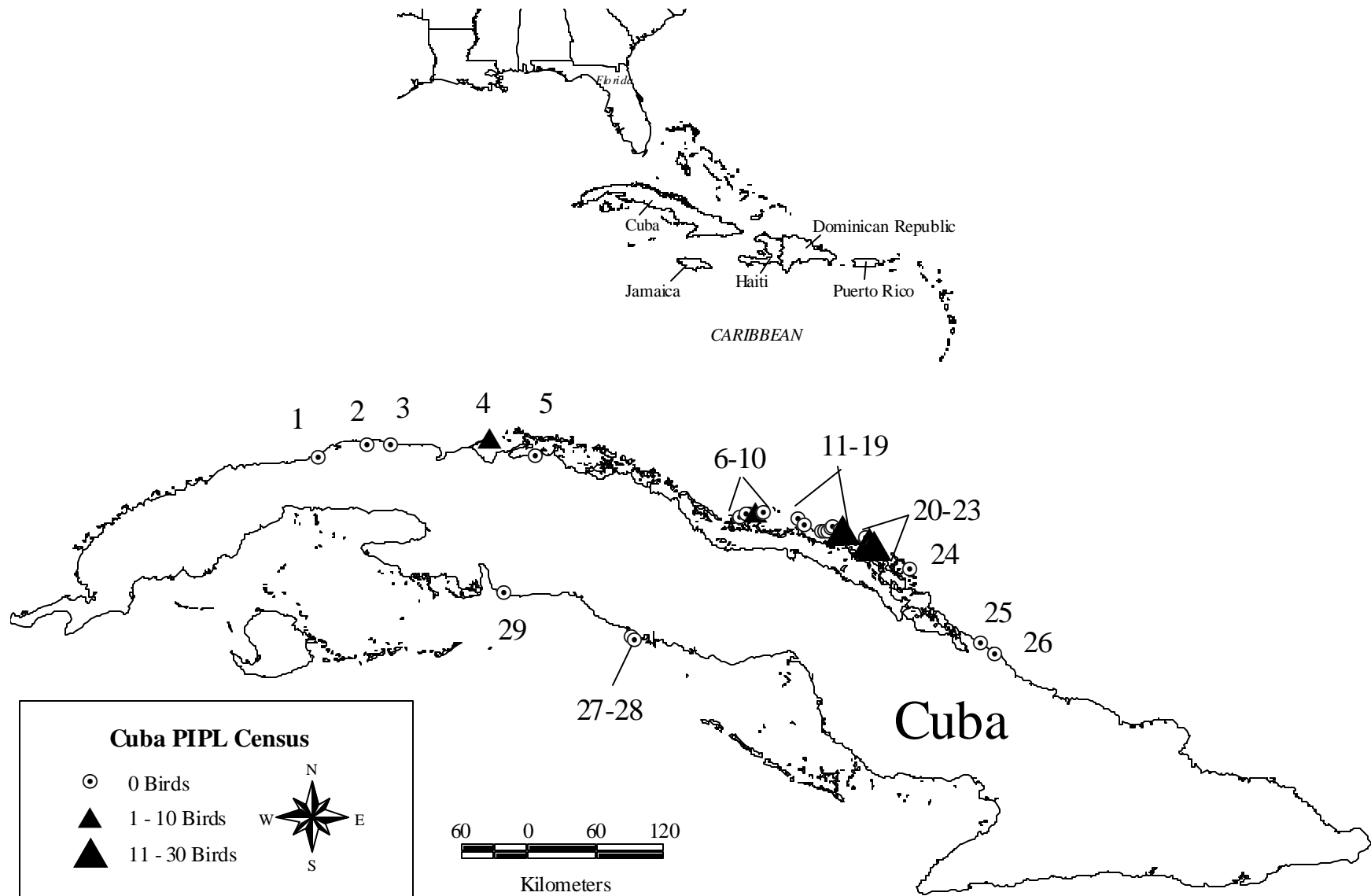


Sixteen Snowy Plovers were counted, occurring on only two of the 29 sites – Las Salinas de Bidos (14 birds) and Peninsula de Hicacos (2 birds).

Only a portion of the potential habitat was visited. Some islands in the Sabana-Camagüey Archipelago and others located near the coast, south of the Island of Cuba, may be potential wintering areas for this plover. The total length of beach visited in Cuba could probably be doubled. By all appearances, the Piping Plover population wintering in Cuba is greater than the 2001 census indicated. Only seven people took part in the census. Additional resources would obviously allow more sites to be covered.

Cuba is currently focusing heavily on developing its tourism industry. Hotels are being built on the major beaches of all provinces. The number of hotels is relatively low in certain locations, and coexistence of human activities and Piping Plovers still appears possible. Nonetheless, as the number of hotels increases, continued coexistence will most likely become difficult. In certain instances, the situation is critical.

2001 International Piping Plover Winter Census - Cuba -

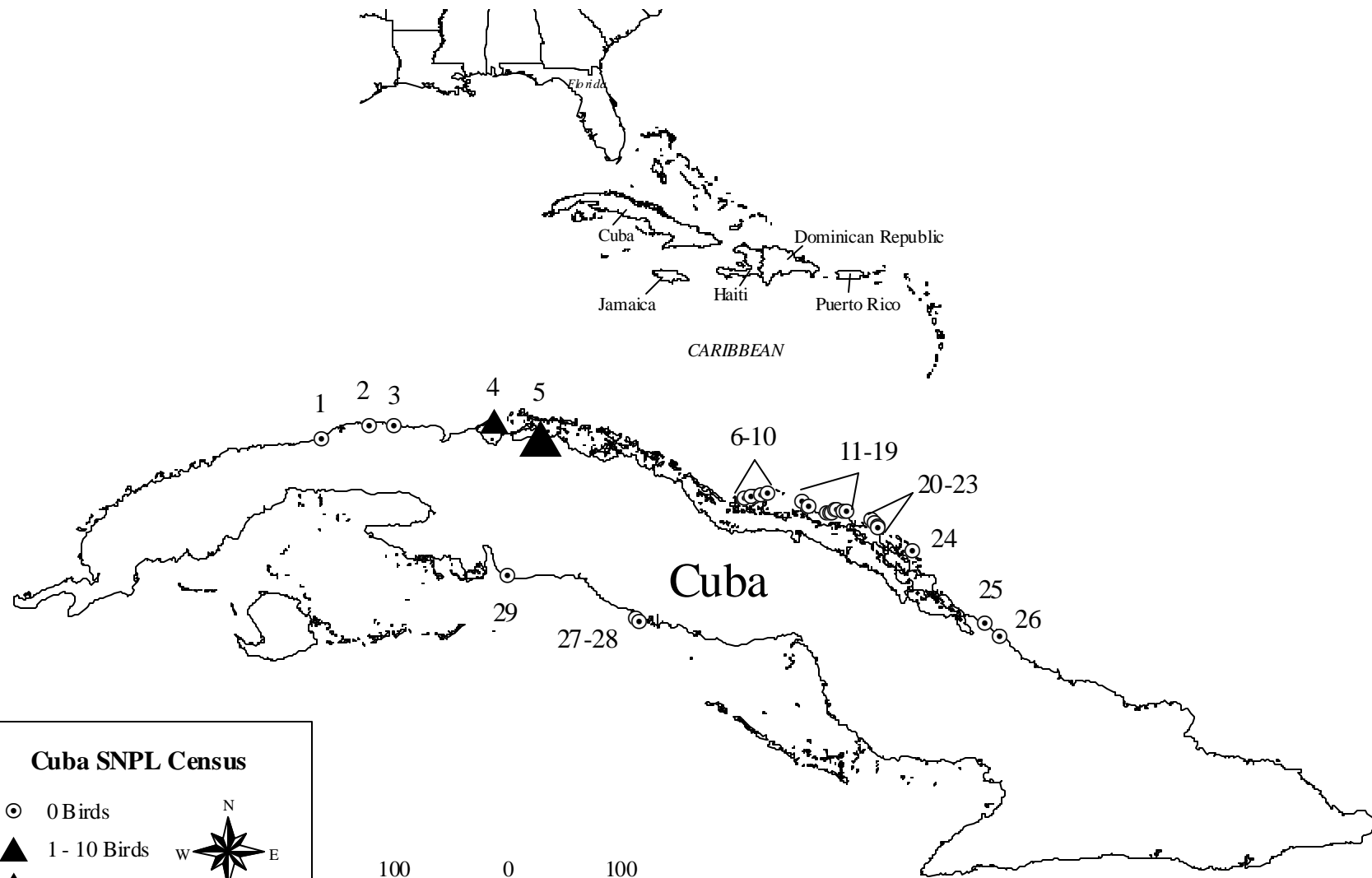


The 2001 International Piping and Snowy Plover Winter Census in Cuba

Piping Plover Results

COUNTY/REGION	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Camagüey	Causeway/Cayo Antón	23	1/30	12	1.3	II F 11	II F 11	No	No	f
Camagüey	Playa Antón/Cayo Antón	22	1/30	0	2.1	I E 1		No	No	f
Camagüey	Playa Bonita/Cayo Sabinal	26	2/10	0	1.5	I E 1		No	No	f
Camagüey	Playa Cruz/Cayo Cruz	24	2/11	0	19.0	I E 1,10		No	No	f
Camagüey	Playa Los Lirios/Cayo Paredón Grande	20	1/30	0	3.0	I E 1		Yes	Yes	f
Camagüey	Playa Los Piños/Cayo Paredón Grande	21	2/17	23	6.4	I E 1,3	I E 3	Yes	Yes	f
Camagüey	Playa Los Pinos/Cayo Sabinal	25	2/10	0	4.0	I E 1,11		No	No	f
Ciego de Ávila	Playa El Paso/Cayo Guillermo	11	1/29	0	3.8	I,II E 1,3		No	No	f
Ciego de Ávila	Playa Flamenco/Cayo Coco	16	1/29	0	2.0	I E 1		No	Yes	f
Ciego de Ávila	Playa La Jaula/Cayo Coco	15	1/29	0	3.0	I E 1		No	Yes	f
Ciego de Ávila	Playa La Petrolera/Cayo Coco	13	2/08	0	2.5	I E 1		No	Yes	f
Ciego de Ávila	Playa Larga/Cayo Coco	18	2/16	0	2.5	I E 1		No	Yes	f
Ciego de Ávila	Playa Las Coloradas/Cayo Coco	19	2/06	11	2.5	I E 1,11	I E 1,11	No	Yes	f
Ciego de Ávila	Playa Pilar/Cayo Guillermo	12	1/29	0	1.8	I,II E 1		No	No	f
Ciego de Ávila	Playa Prohibida/Cayo Coco	17	1/29	0	1.4	I E 1		No	Yes	f
Ciego de Ávila	Playa Uva Caleta/Cayo Coco	14	2/08	0	3.0	I E 1		No	Yes	f
Ciudad de Habana	Habana del Este	2	2/04	0	10.0	I A 1,6		No	Yes	f
Ciudad de Habana	Santa Fé	1	1/31	0	2.0	I A 1		No	No	f
Habana	Santa Cruz del Norte	3	2/05	0	6.0	I A 1,6,11		No	Yes	f
Matanzas	Las Salinas de Bidos	5	2/03	0	1.0	I,III A 5		No	Yes	f
Matanzas	Península de Hicacos	4	2/03	8	3.8	I,II A,D 1,4,5,6	II A 4,5,6	No	Yes	f
Matanzas	Playa Girón	29	2/16	0	0.4	I A 1		No	No	f
Sancti Spiritus	Playa Ancón	27	2/16	0	4.4	I D 1		No	No	f
Sancti Spiritus	Playa Costa Sur	28	2/16	0	0.6	I D 1		No	No	f
Villa Clara	Cayo la Bruja	6	2/02	0	1.7	I E 1		No	No	f
Villa Clara	Playa Al Final/Cayo Santa Maria	10	2/01	0	3.1	I E 1		No	Yes	f
Villa Clara	Playa Ensenachos #1/Cayo Ensenachos	8	2/02	0	1.1	I E 1		No	No	f
Villa Clara	Playa Ensenachos #2/Cayo Ensenachos	7	2/02	0	1.1	I E 1		No	No	f
Villa Clara	Playa Estrella/Cayo Santa Maria	9	2/01	1	10.4	I E 1	I E 1	No	Yes	f
Total				55	105.4					

2001 International Piping and Snowy Plover Winter Census - Snowy Plovers in Cuba -

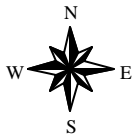


Cuba SNPL Census

○ 0 Birds

▲ 1 - 10 Birds

▲ 11 - 30 Birds



100 0 100
Kilometers

The 2001 International Piping and Snowy Plover Winter Census in Cuba

Snowy Plover Results

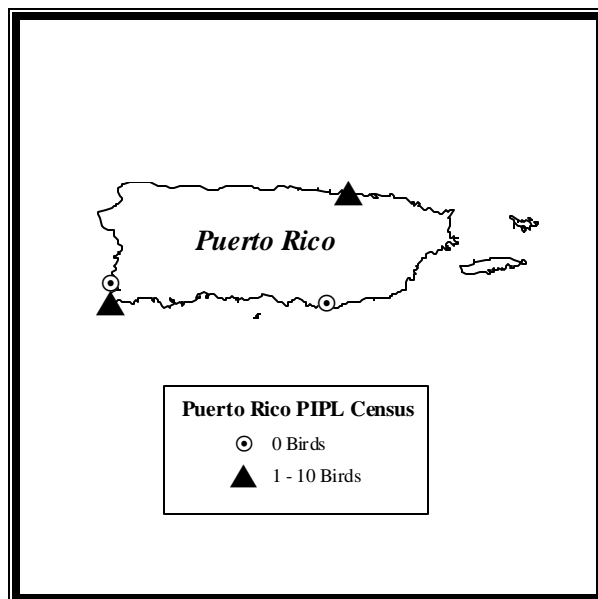
COUNTY	SITE NAME	MAP #	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWNER
Camagüey	Causeway/Cayo Antón	23	1/30	0	1.3	II F 11		f
Camagüey	Playa Antón/Cayo Antón	22	1/30	0	2.1	IE 1		f
Camagüey	Playa Bonita/Cayo Sabinal	26	2/10	0	1.5	IE 1		f
Camagüey	Playa Cruz/Cayo Cruz	24	2/11	0	19.0	IE 1,10		f
Camagüey	Playa Los Lirios/Cayo Paredón Grande	20	1/30	0	3.0	IE 1		f
Camagüey	Playa Los Piños/Cayo Paredón Grande	21	2/17	0	6.4	IE 1,3		f
Camagüey	Playa Los Pinos/Cayo Sabinal	25	2/10	0	4.0	IE 1,11		f
Ciego de Ávila	Playa El Paso/Cayo Guillermo	11	1/29	0	3.8	I,II E 1,3		f
Ciego de Ávila	Playa Flamenco/Cayo Coco	16	1/29	0	2.0	IE 1		f
Ciego de Ávila	Playa La Jaula/Cayo Coco	15	1/29	0	3.0	IE 1		f
Ciego de Ávila	Playa La Petrolera/Cayo Coco	13	2/08	0	2.5	IE 1		f
Ciego de Ávila	Playa Larga/Cayo Coco	18	2/16	0	2.5	IE 1		f
Ciego de Ávila	Playa Las Coloradas/Cayo Coco	19	2/06	0	2.5	IE 1,11		f
Ciego de Ávila	Playa Pilar/Cayo Guillermo	12	1/29	0	1.8	I,II E 1		f
Ciego de Ávila	Playa Prohibida/Cayo Coco	17	1/29	0	1.4	IE 1		f
Ciego de Ávila	Playa Uva Caleta/Cayo Coco	14	2/08	0	3.0	IE 1		f
Ciudad de Habana	Habana del Este	2	2/04	0	10.0	I A 1,6		f
Ciudad de Habana	Santa Fé	1	1/31	0	2.0	I A 1		f
Habana	Santa Cruz del Norte	3	2/05	0	6.0	I A 1,6,11		f
Matanzas	Las Salinas de Bidos	5	2/03	14	1.0	I,III A 5	I,III A 5	f
Matanzas	Península de Hicacos	4	2/03	2	3.8	I,II A,D 1,4,5,6	ID 1	f
Matanzas	Playa Girón	29	2/16	0	0.4	I A 1		f
Sancti Spiritus	Playa Ancón	27	2/16	0	4.4	ID 1		f
Sancti Spiritus	Playa Costa Sur	28	2/16	0	0.6	ID 1		f
Villa Clara	Cayo la Bruja	6	2/02	0	1.7	IE 1		f
Villa Clara	Playa Al Final/Cayo Santa Maria	10	2/01	0	3.1	IE 1		f
Villa Clara	Playa Ensenachos #1/Cayo Ensenachos	8	2/02	0	1.1	IE 1		f
Villa Clara	Playa Ensenachos #2/Cayo Ensenachos	7	2/02	0	1.1	IE 1		f
Villa Clara	Playa Estrella/Cayo Santa Maria	9	2/01	0	10.4	IE 1		f
Total				16	105.4			

The 2001 International Piping and Snowy Plover Winter Census in Puerto Rico

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I would say that most (>90%) suitable habitat was censused. Cabo Rojo is the only place that Piping Plovers have been seen in Puerto Rico, and is also the most likely place to find them based on the habitat. Piping Plovers are not commonly seen in Puerto Rico, perhaps 1-2 per year.

The results of the 2000 Audubon Christmas

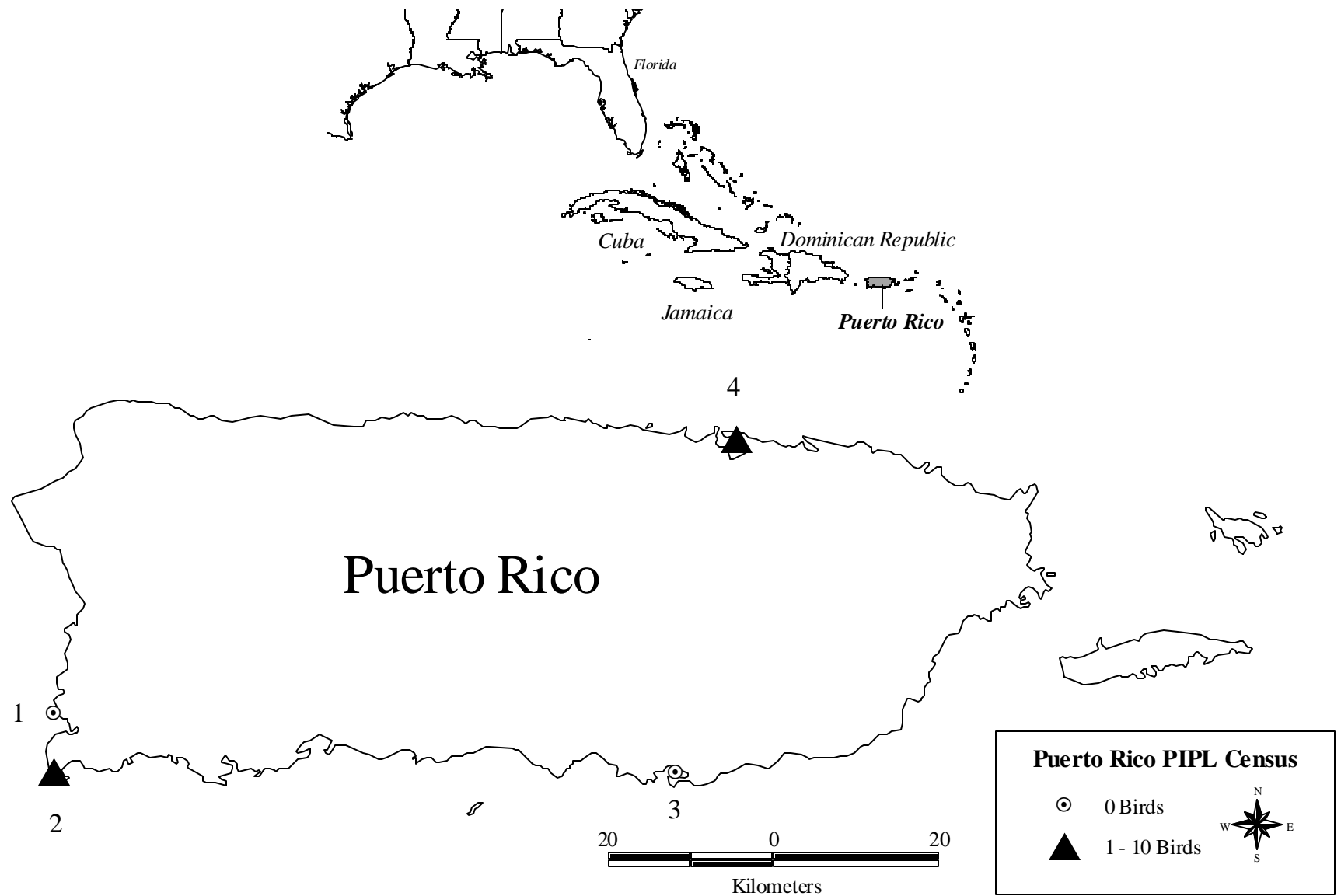


Bird Count were included in this summary in order to depict the observations of some Piping Plovers in Puerto Rico.

Additionally, one Piping Plover was observed during the annual Audubon Christmas Bird Count at Fajardo in December of 1999.

Seventeen Snowy Plovers were seen.

2001 International Piping Plover Winter Census - Puerto Rico -



The 2001 International Piping and Snowy Plover Winter Census in Puerto Rico

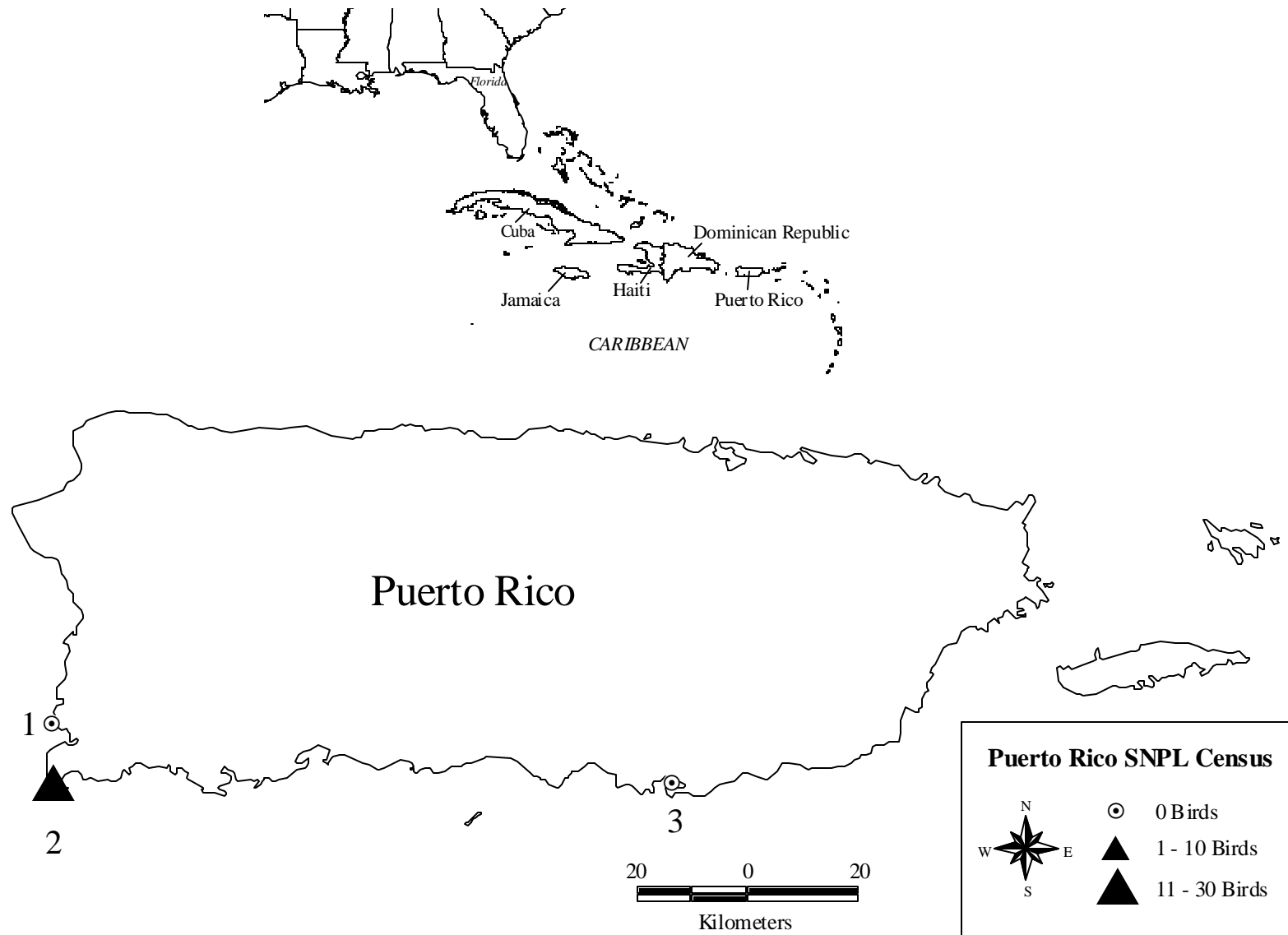
Piping Plover Results

COUNTY/REGION	SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Cabo Rojo	Cabo Rojo Salt Flats	2	2/9/01	0	6.5	II F 5		Yes	Yes	f
Cabo Rojo	Cabo Rojo (2000 CBC) *	2	12/25/00	1	n.r.	Not specified	Not specified	Yes	Yes	n.r.
Cabo Rojo	Punta Guaniquilla	1	1/28/01	0	5.6	II A 3,8		No	No	s(p)
Salinas/Guayama	Jobos Bay	3	2/10/01	0	3.2	II A 1,8,10		No	No	s(p)/m/p
	San Juan Bay Estuary (2000 CBC) *	4	12/25/00	5	n.r.	Not specified	Not specified	No	No	n.r.
Total				6	15.3					

* = birds observed during annual Audubon Society Christmas Bird Count

n.r. = not reported

2001 International Piping and Snowy Plover Winter Census - Snowy Plovers in Puerto Rico -



**The 2001 International Piping and Snowy Plover Winter Census in Puerto Rico
Snowy Plover Results**

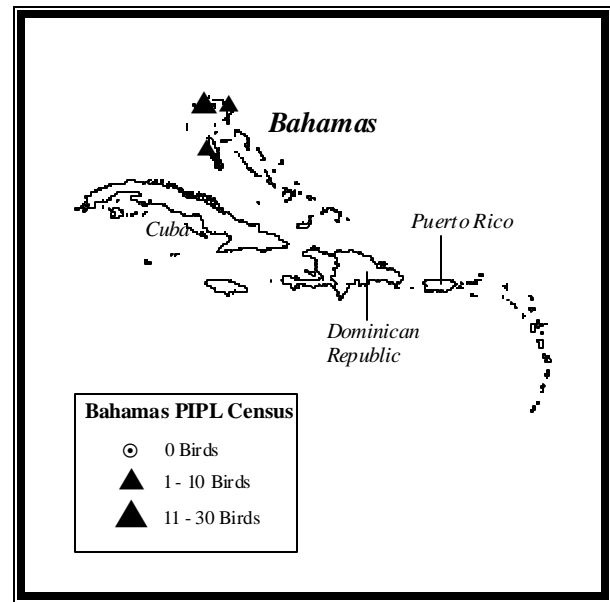
COUNTY/REGION	SITE NAME	MAP#	DATE	TOTAL SNPL	KM	SITE DESCRIPTION	SNPL HABITAT	OWNER
Cabo Rojo	Cabo Rojo Salt Flats	2	2/09	17	6.5	II F 5	II F 5	f
Cabo Rojo	Punta Guaniquilla	1	1/28	0	5.6	II A 3,8		s(p)
Salinas/Guayama	Jobos Bay	3	2/10	0	3.2	II A 1,8,10		s(p)/m/p
Total				17	15.3			

The 2001 International Piping and Snowy Plover Winter Census in the Bahamas

There was no coordinated effort to survey the Bahamas for Piping Plovers during the 2001 International Winter Census. However, several reports were obtained from local birders and thru the National Audubon Society's Annual Christmas Bird Count.

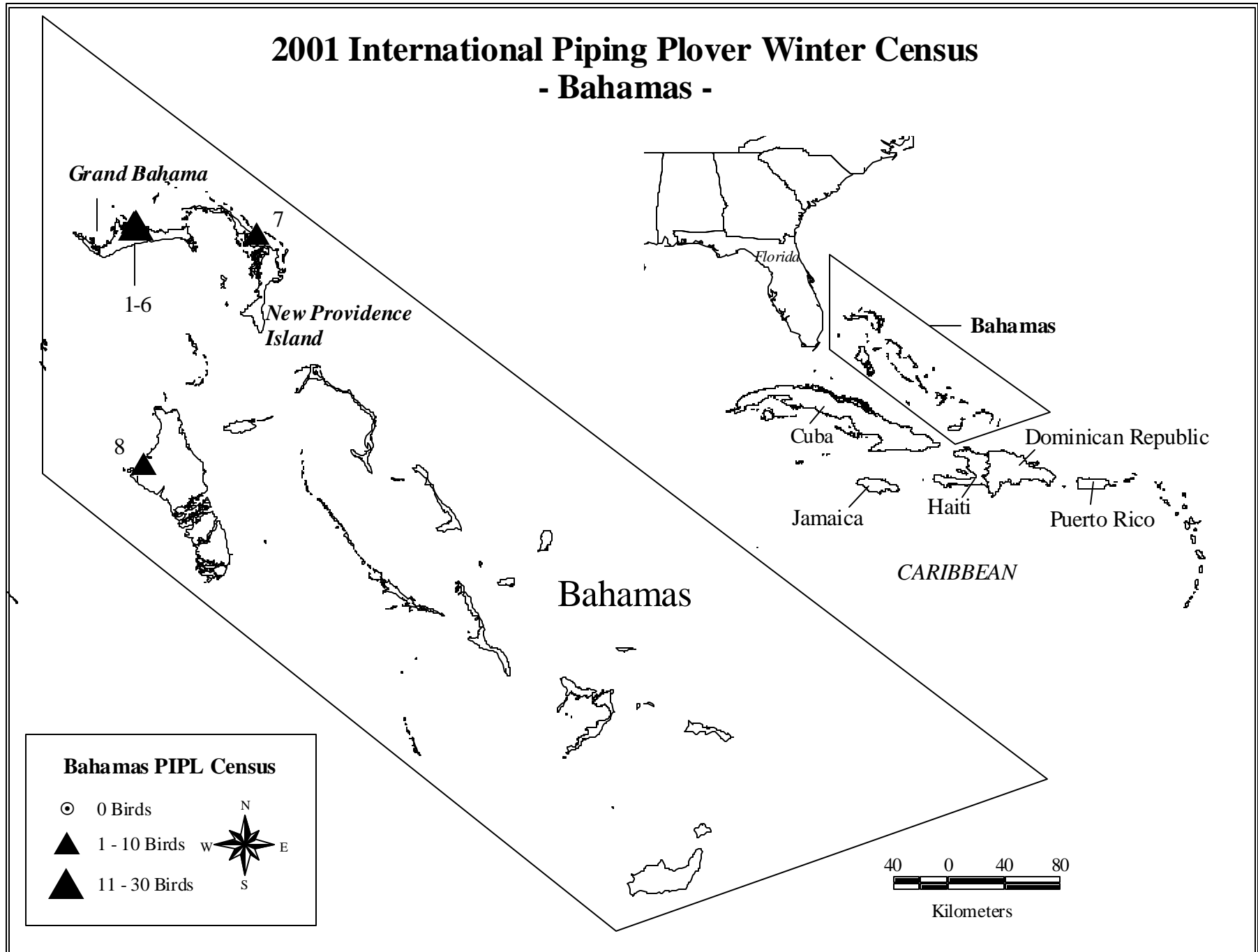
Thirty-five Piping Plovers were observed during the winter of 2000-2001 with the largest concentration at Green Turtle Cay on Grand Bahama (18 birds).

No snowy plovers were documented.



Summarized by C. Ferland

2001 International Piping Plover Winter Census - Bahamas -



The 2001 International Piping and Snowy Plover Winter Census in the Bahamas Piping Plover Results

SITE NAME	MAP#	DATE	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Forfar Field Station	8	Apr-01	2	n.r.	Not Reported	Not Reported	n.r.	n.r.	n.r.
Grand Bahama	1	Oct-00	1	n.r.	Not Reported	Not Reported	n.r.	n.r.	n.r.
Grand Bahama Island (2000 Audubon CBC)	2	Dec-00	6	n.r.	Not Reported	Not Reported	n.r.	n.r.	n.r.
Green Turtle Cay, Abaco	3	Oct-00	1	n.r.	Not Reported	Not Reported	n.r.	n.r.	n.r.
Green Turtle Cay, Grand Bahama	4	Feb-01	18	n.r.	Not Reported	Not Reported	n.r.	n.r.	n.r.
High Rock, Grand Bahama	5	Jan-01	4	n.r.	Not Reported	Not Reported	n.r.	n.r.	n.r.
Lucaya, Grand Bahama	6	Jan-01	2	n.r.	Not Reported	Not Reported	n.r.	n.r.	n.r.
New Providence Island (2000 Audubon CBC)	7	Dec-00	1	n.r.	Not Reported	Not Reported	n.r.	n.r.	n.r.
Total			35	n.r.					

n.r. = not reported

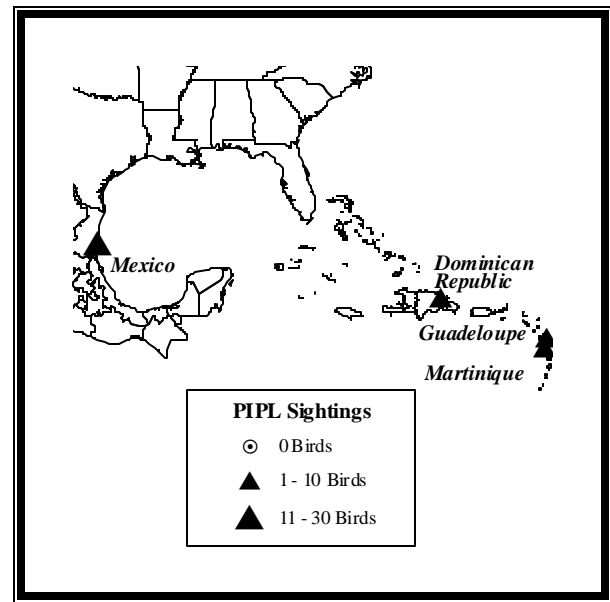
CBC = Annual Audubon Christmas Bird Count

The 2001 International Piping Plover Winter Census Mexico and Caribbean Sightings Outside the Census Window

There was no coordinated effort to survey Mexico or the Caribbean (beyond Puerto Rico and Cuba) during the 2001 International Winter Census. However, several noteworthy reports were obtained from individuals and thru the National Audubon Society's Annual Christmas Bird Count. All of these sightings occurred in years outside the 2001 Census but are included in this report to document the distribution of plovers outside the range of the United States and Canada.

Twenty Piping Plovers were observed in Tamaulipas, Mexico during the winter of 1999-2000. These birds were counted as part of the 1999 National Audubon Society's Annual Christmas Bird Count.

Until now, there have been no official sightings of Piping Plovers in the French West Indies. In September of 1997, two adults were seen on



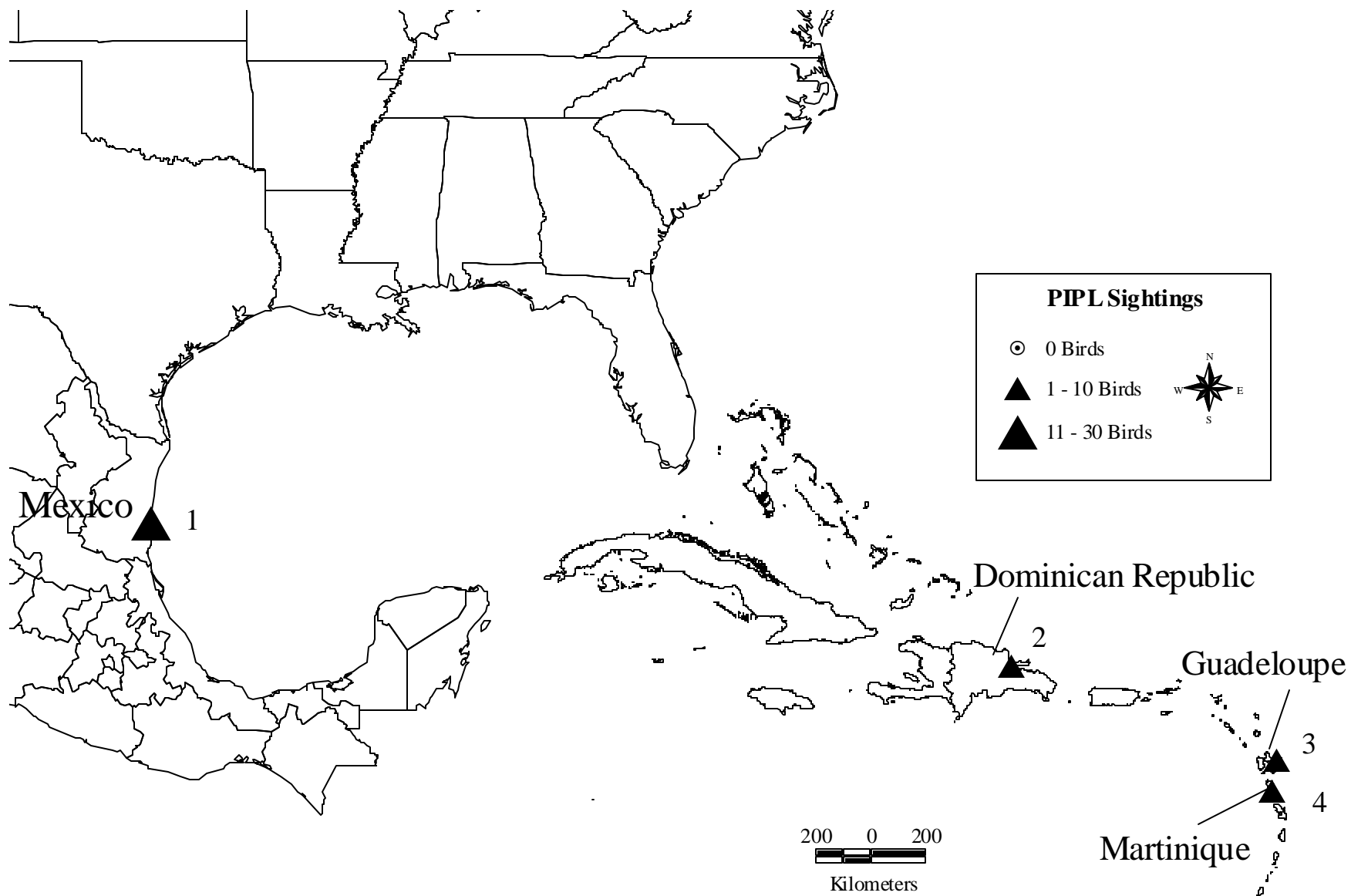
Martinique and in September of 1999, one adult was recorded on Guadeloupe at La Pointe des Chateaux.

Additionally, one Piping Plover was seen in the Dominican Republic at Salinas, Bani in February 2000.

In March 2002, J. Collazo and J. Lyons reported several hundred Snowy Plovers in the Dominican Republic.

Summarized by C. Ferland

2001 International Piping Plover Winter Census - Caribbean/Mexico Sightings Outside the Census Window -



**2001 International Piping Plover Winter Census
Mexico/Caribbean Sightings Outside the Census Window**

COUNTRY	STATE	SITE NAME	MAP #	DATE	TOTAL BIRDS
France	Guadeloupe	La Pointe des Chateaux	3	9/1999	1
France	Martinique	Unknown	4	9/1997	2
Dominican Republic	Dominican Republic	Salinas, Bani	2	2/2000	1
Mexico	Tamaulipas	Rancho Rincon de Anacahuillas (1999 Audubon CBC)	1	12/1999	20
Total					24

CBC = Annual Audubon Christmas Bird Count

The 2001 International Piping Plover Breeding Census

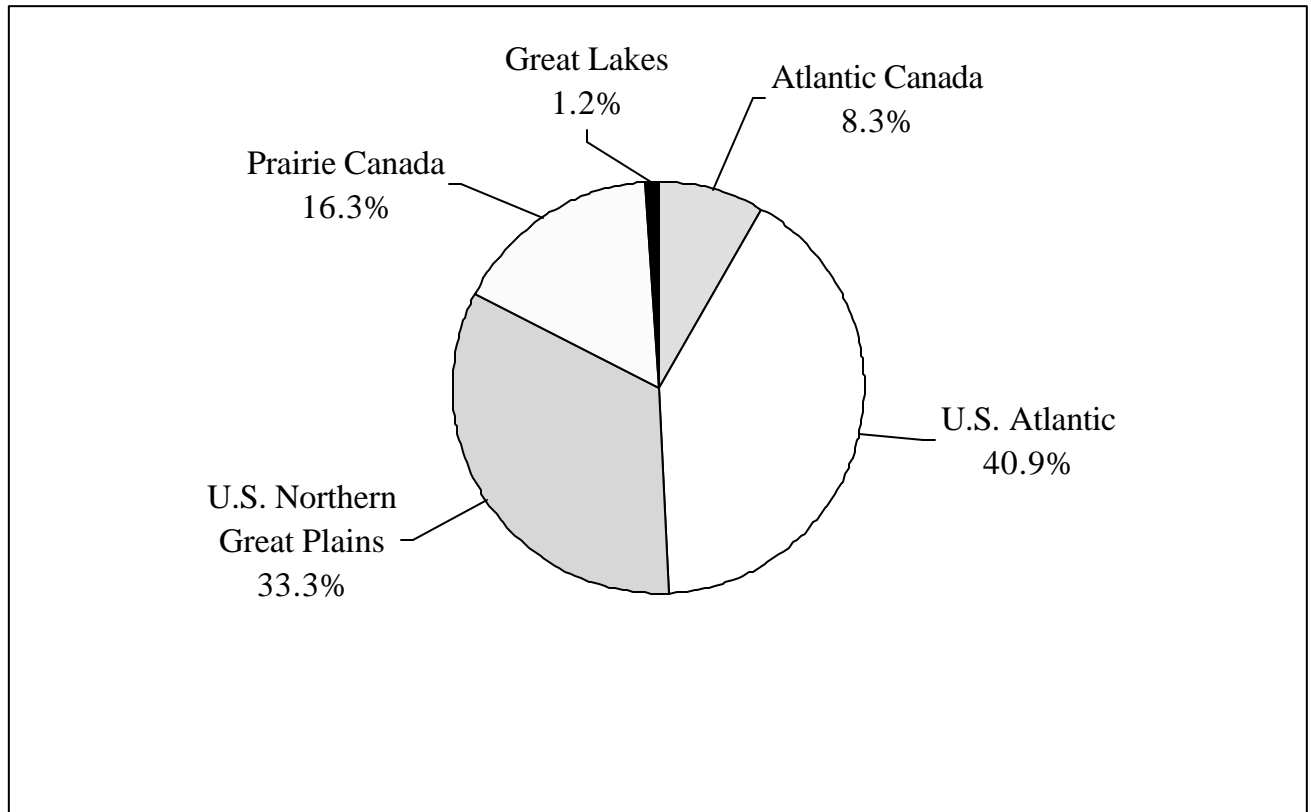


Figure 6. Regional Piping Plover Distribution

The 2001 International Piping Plover Breeding Census: Atlantic Coast

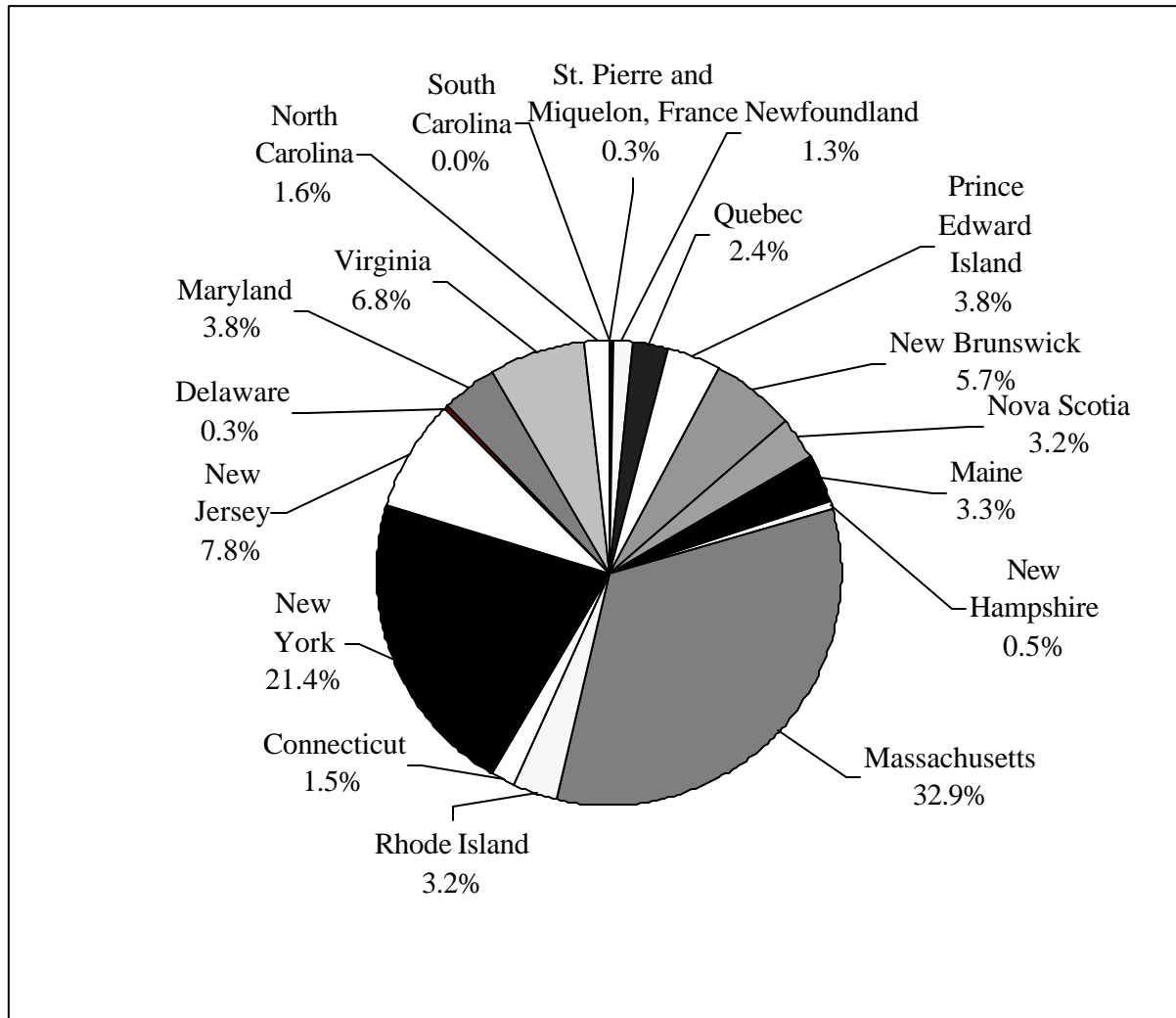
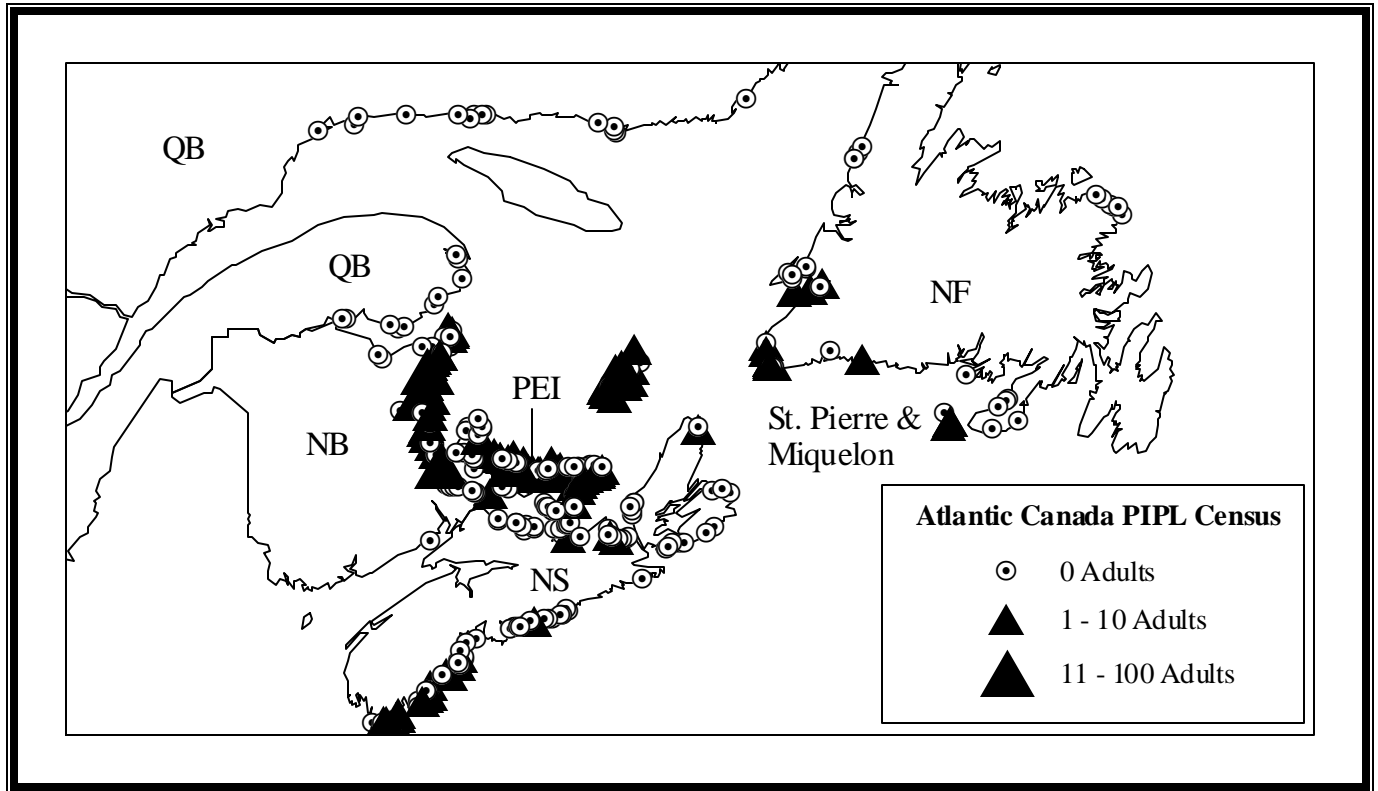


Figure 7. Atlantic Coast Breeding Piping Plover distribution.

The 2001 International Piping Plover Breeding Census Atlantic Canada Overview



2001 International Census results for Piping Plovers nesting in Atlantic Canada provided a positive contrast to the last survey effort. An overall increase of 14% was recorded for the population between 1996 and 2001, as compared to a 17% decrease between 1991 and 1996. However, at the current population level of 481 individuals, the Atlantic Canada population remains lower than the 1991 level of 509 individuals and the population target of 335 pairs (670 individuals) identified in the Canadian recovery plan (Goossen et al. 2002) has not yet been achieved.

All but one jurisdiction (Québec) reported an increase in their nesting populations in 2001 as compared to 1996, and Prince Edward Island actually exceeded population levels recorded in 1991. However, the regional population increase should be viewed with cautious optimism as at least a portion of the increase can be attributed to more intensive survey effort.

For example, the Newfoundland population increase since 1991 has been largely attributed to increased survey effort

The Atlantic Canada population is now closely monitored on an annual basis. The International Census results recorded during 2001 closely reflect recent annual survey results.

The distribution of Piping Plovers in Eastern Canada has shifted among and within provinces since 1991. The province of New Brunswick has consistently had the highest proportion of the regional breeding population at between 34-40% of the adult population. In 2001, the second highest proportion of the population was found in Prince Edward Island, while in 1996 this occurred in Québec, and in 1991 Nova Scotia had a slightly higher proportion of the breeding population compared to Prince Edward Island. Newfoundland has consistently had the

lowest proportion of the breeding population in Eastern Canada.

An ongoing banding research project has started to yield important information regarding interprovincial dispersal of birds. This information provides insight for the determination of effective population sizes and reproductive isolation among breeding subunits within Atlantic Canada. Genetic evidence will be used to support the data on population movements and identify sub-populations that may be particularly vulnerable due to their small effective population size.

Within provinces there have been shifts in use of breeding habitats created by major flooding and winter storms. Beaches have also been abandoned in some provinces where habitat changes do not appear to be the cause. Human disturbance continues to result in displacement of nesting plovers.

Trends in suitability of habitat between International Census years are variable among provinces. Within New Brunswick and Prince Edward Island, major flooding events and winter storms have greatly enhanced nesting habitat and new nesting sites have been created where no reproduction has occurred in the past. The amount of suitable habitat has been consistent in Newfoundland and Québec. In Nova Scotia, habitat at some sites has become less suitable for nesting. These habitat trends may be responsible for some of the population shifts occurring between provinces. Substantive protection measures that promote conservation have also likely contributed to localized provincial increases.

Long-term conservation efforts are now resulting in substantive progress towards species recovery. The federal Habitat Stewardship Program has resulted in core funding that ensures guardian programs are operational in all Atlantic Canada jurisdictions. Parks Canada has ensured intensive protection programs are implemented within three National Parks.

Many conservation challenges remain to be addressed in Atlantic Canada. This includes a solution to the problem of illegal (Nova Scotia, New Brunswick) and legal use (Newfoundland) of vehicles in Piping Plover breeding habitats. All terrain vehicles are a relatively minor problem within Prince Edward Island and Québec.

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References

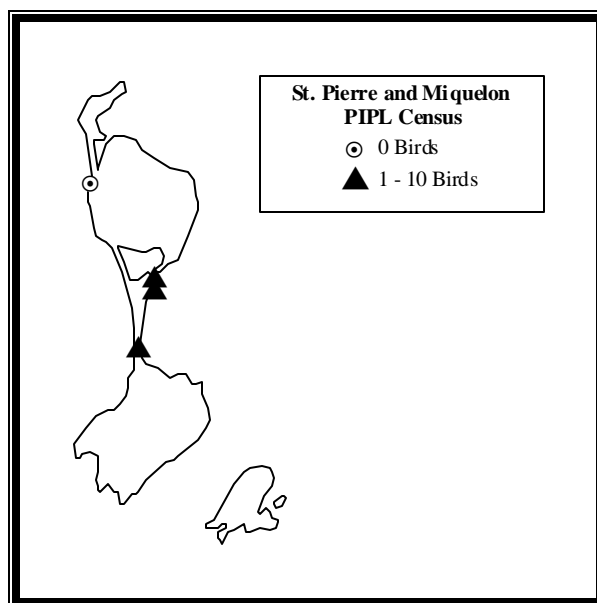
Goossen, J.P., D.L. Amirault, J. Arndt, R. Bjorge, S. Boates, J. Brazil, S. Brechtel, R. Chiasson, G.N. Corbett, F. Curley, M. Elderkin, S.P. Flemming, W. Harris, L. Heyens, D. Hjertaas, M. Huot, B. Johnson, R. Jones, W. Koonz, P. Laporte, D. McAskill, R.I.G. Morrison, S. Richard, F. Shaffer, C. Stewart, L. Swanson and E. Wiltse. 2002. National Recovery Plan for the Piping Plover (*Charadrius melodus*). National Recovery Plan No.22. Recovery of Nationally Endangered Wildlife. Ottawa. 47 pp.

The 2001 International Piping Plover Breeding Census on St. Pierre and Miquelon, France

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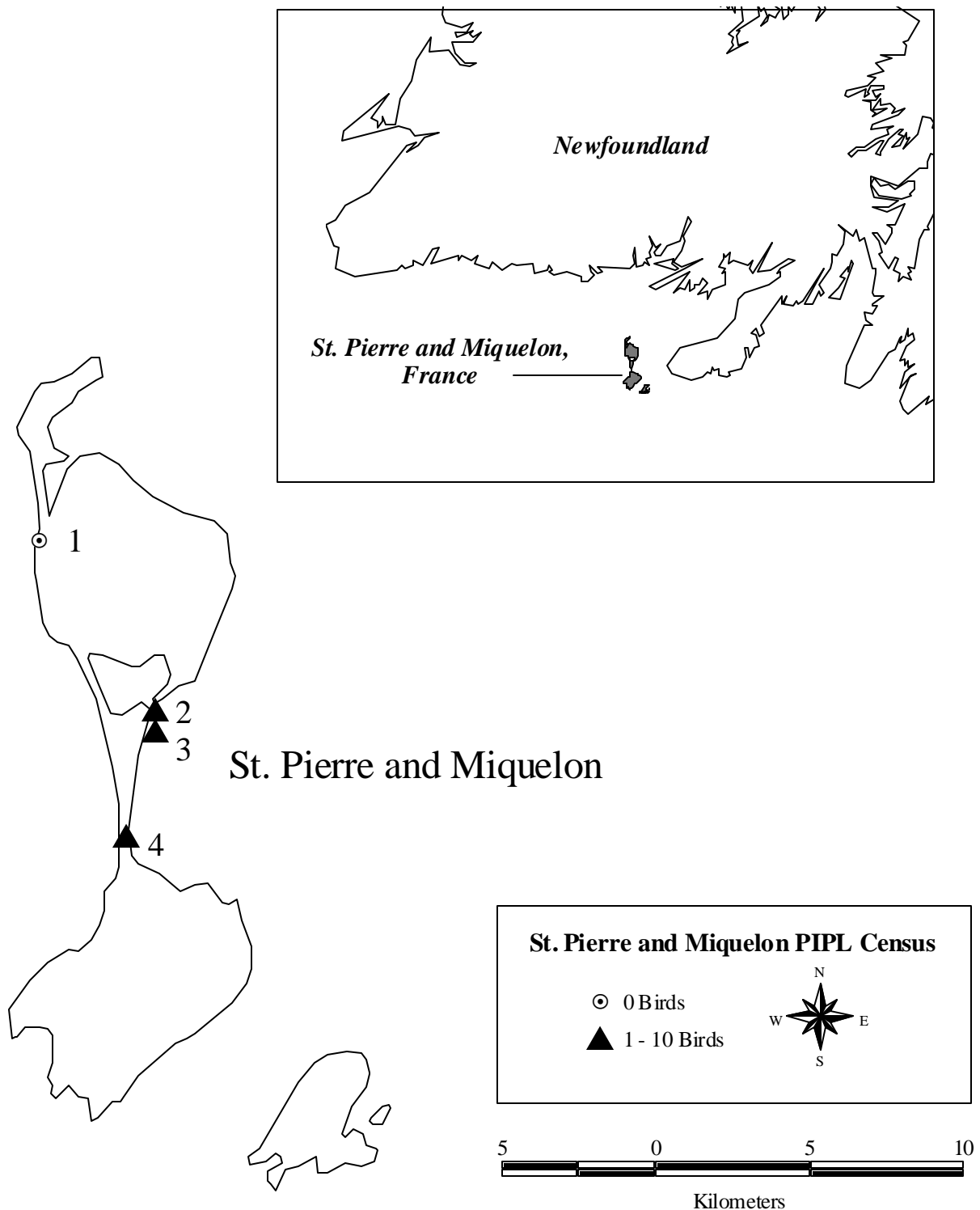
All areas of suitable habitat were examined.
The islands are very small; therefore, there is little chance of overlooking suitable habitat.



Four sites were surveyed comprising 20 km of shoreline habitat. This effort is consistent with past surveys. Dune de Miquelon was surveyed despite the fact that habitat there appears to be poor. The four core areas included in this census will continue to be focused on in future surveys.

The 2001 results of 9 plovers (4 pairs, 1 single) are the highest yet and represent the true population estimate. Follow-up visits conducted after the census supported the results.

2001 International Piping Plover Breeding Census - St. Pierre and Miquelon -



The 2001 International Piping Plover Breeding Census on St. Pierre and Miquelon, France

SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Dune de Miquelon	1	6/12	0	0	3.0	II A 6,13		Yes	Yes	s(p)
Gully of Grand Barachois	3	6/11	1	3	12.0	I A 1,6,12	I A 6,12	Yes	Yes	s(p)
Northeast of Gully of Grand Barachois	2	6/19	2	4	5.0	I A 1,6	I A 1,6	Yes	Yes	s(p)
West Side of Isthme de Langlade	4	6/11	1	2	n.r.	I A 1,6	I A 1,6	Yes	Yes	s(p)
Total			4	9	20.0					

n.r. = not reported

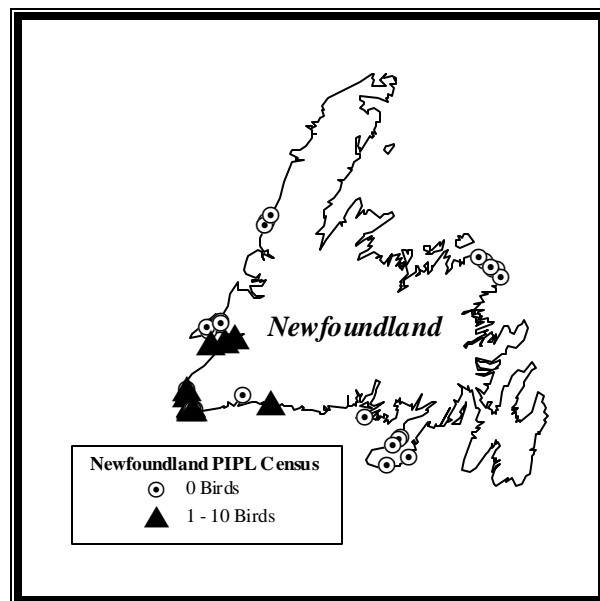
The 2001 International Piping Plover Breeding Census in Newfoundland

Joe Brazil

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In the 2001 International Piping Plover Census, twenty-three pairs of breeding plovers were counted (39 adults). This is the highest International Census tally for the province. In 1991, 7 plovers were seen and in 1996, 27 were counted. Thus, the population has increased significantly over the past decade.

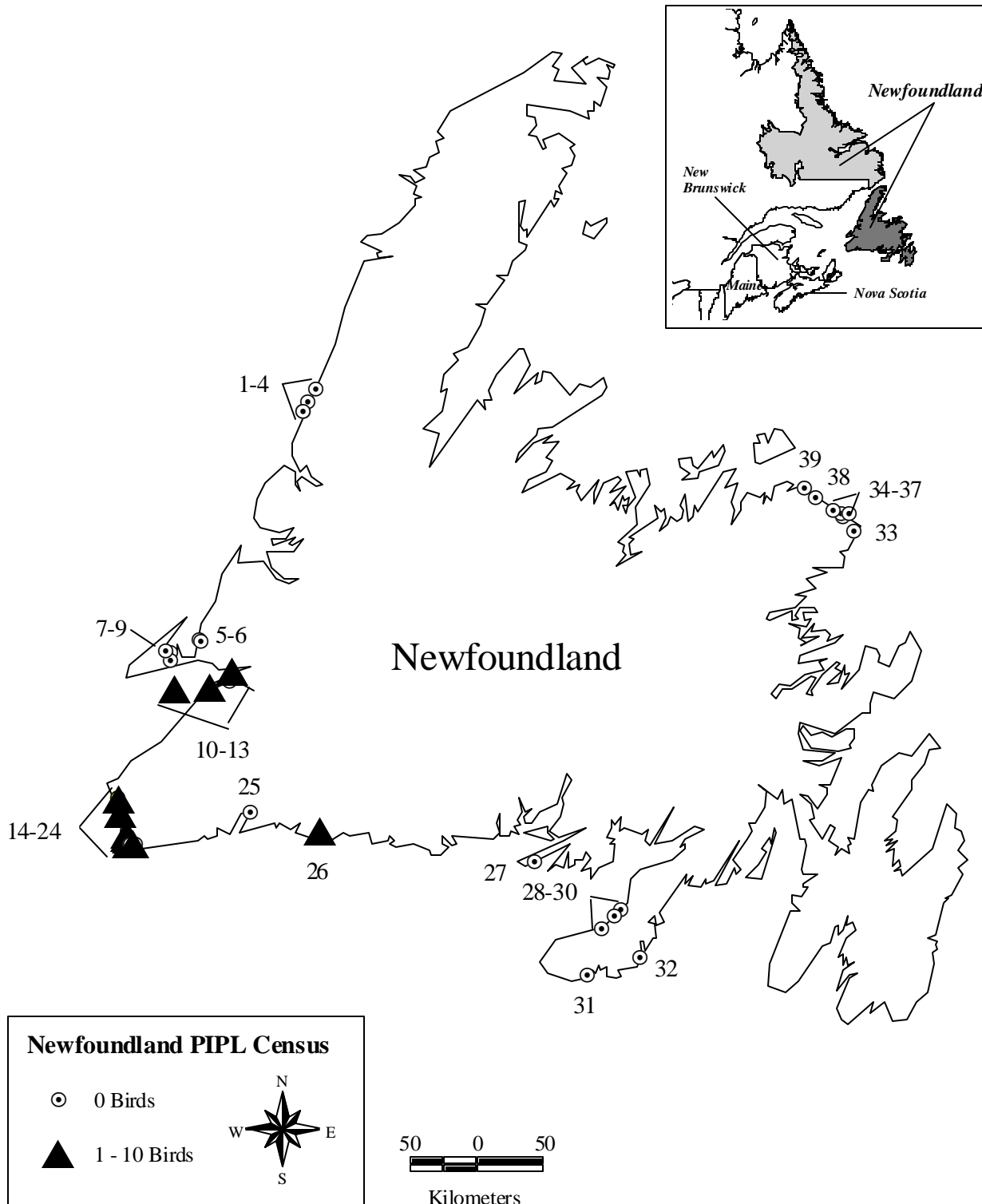
Twenty-six observers surveyed 73 kilometers of Atlantic coast shoreline.



Thirty-one percent (12) of the 39 sites censused contained plovers. Number of plovers per occupied site was relatively small. The site with the greatest number was Flat Bay, which had 7 adults.

Summarized by C. Ferland

2001 International Piping Plover Breeding Census - Newfoundland -



The 2001 International Piping Plover Breeding Census in Newfoundland

SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Bakers Spit	25	6/12	0	0	1.0	I D 4		No	Yes	n.r.
Big Barachois	21	6/11	1	2	1.9	I A 1	I A 1	No	Yes	s(p)
Big Barasway	26	6/08	1	3	9.3	I,II D 1	n.r.	Yes	Yes	s(p)
Broom Point	1	6/12	0	0	0.5	I A 6,11		No	Yes	f
Cape Freels	33	6/11	0	0	4.5	I A 1		Yes	Yes	n.r.
Cheeseman Park Beach (Cape Ray)	19	6/12	3	5	2.6	I A 4	I A 4	No	Yes	s(p)
Deadman's Bay	36	6/12	0	0	2.0	I A 1,2,12		Yes	Yes	n.r.
East of Windsor Point	23	6/11	2	2	0.5	I A 1	I A 1	Unk	Unk	s(p)
Flat Bay	13	6/06	5	7	4.4	I D 6	I D 6	No	No	s(p)
Fox Island River	5	6/13	0	0	n.r.	I D 4		No	No	s(p)
Frenchman's Cove	29	6/05	0	0	0.5	I A 6		No	No	s(p)
Garnish	28	6/05	0	0	0.5	I,II A 6,10		No	No	s(p)
Grand Bay West Beach	22	6/11	0	0	0.4	I A 1		No	Yes	s(p)
Grand Beach	30	6/04	0	0	2.6	I,II A 6,10,11		No	No	s(p)
Grand Codroy Day Use Park	14	6/03	0	0	n.r.	I,II, V A 1		Yes	Yes	s(p)
Kelby Cove	24	6/11	0	0	0.5	I A 1		No	No	s(p)
L'anse-au-loup	32	6/04	0	0	n.r.	I,II A 4,6,8,11,13,14		No	No	s(p)
Little Barachois	11	6/14	0	0	0.3	I A 1		No	No	s(p)
Little Codroy Beach	16	6/03	2	4	n.r.	I,II, V A 1,11,12	I A 1,11	Yes	No	s(p)
Lumsden Head East	34	6/11	0	0	2.1	I A 1		Yes	Yes	s(p)
Lumsden Head West	37	6/11	0	0	2.5	I A 1		Yes	Yes	s(p)
Musgrave Harbor	39	6/12	0	0	7.5	I A 1		Yes	Yes	s(p)/m/p
Osmond Beach	17	6/11	2	2	0.4	I A 1	I A 1	No	Unk	s(p)
Picadilly	8	6/08	0	0	n.r.	I, V A 1,11		No	No	n.r.
Picadilly Head Beach	9	6/07	0	0	0.5	I A 1		No	No	s(p)
Point au Mal	6	6/07	0	0	4.4	I,II A 1		No	No	s(p)
Rocky Barachois	18	6/11	4	5	0.7	I A 1	I A 1	No	Yes	s(p)
Rocky Barachois Bight	20	6/11	1	1	1.2	I A 1	I A 1	No	No	s(p)
Sandy Cove Head	31	6/04	0	0	n.r.	I,II A 1		No	No	s(p)
Sandy Point	12	n.r.	0	3	n.r.	n.r.	n.r.	Unk	Unk	n.r.
Seal Cove Beach	27	6/13	0	0	1.9	I, V A 1,11		No	No	s(p)
Searston Beach	15	6/06	1	2	n.r.	I,II, V A 1,11	I A 1	No	Yes	s(p)

The 2001 International Piping Plover Breeding Census in Newfoundland (Continued)

SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Shallow Bay	4	6/12	0	0	5.5	I,II A 1,12		Yes	Yes	f
Shalloway Bay	38	6/12	0	0	1.5	I A 1		No	Yes	s(p)
St. Pauls	2	6/12	0	0	2.0	II A 1,10		No	Yes	s(p)
Stephenville Crossing	10	6/08	1	3	4.0	I A 1,11	I A 1	Yes	Yes	s(p)
West Bay Beach	7	6/07	0	0	4.6	I A 1,11		No	No	n.r.
Western Brook	3	6/12	0	0	2.0	I A 1		Yes	Yes	f
Windmill Bight	35	6/12	0	0	1.0	I A 1		No	No	p
Total			23	39	73.3					

n.r. = not reported

unk = unknown

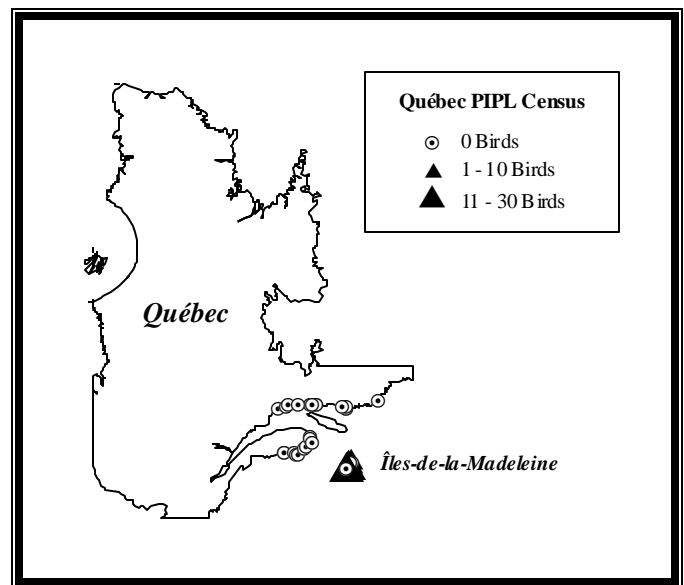
The 2001 International Piping Plover Breeding Census in Québec

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The bulk of the census was done from 7-16 June 2001, although some beaches were visited later in June. It covered beaches in three regions of Québec where the Piping Plover has nested historically, namely the Magdalen Islands, the Gaspé Peninsula, and the North Shore of the Gulf of St. Lawrence.

A total of 213.4 km of beach were surveyed, which is 23 km less than in 1996. This difference is due to the fact that the census excluded two small man-made islands within the Magdalen Islands that are now entirely covered with vegetation and also excluded three beaches on the North Shore. None of these beaches were considered viable nesting spots for the Piping Plover.

As in the 1991 and 1996 censuses, Piping Plovers were found only on the Magdalen Islands. A total of 70 birds (35 breeding pairs) were counted, which is down from 76 counted in 1991 and 104 counted in 1996. As in the previous two censuses, the total number of Piping Plovers on the Magdalen Islands for 2001 was calculated from the one-day census on June 9, 2001, in which 39 volunteers participated, and from censuses done by biologists working to protect the species. Thus, the reported number of Piping Plover pairs is

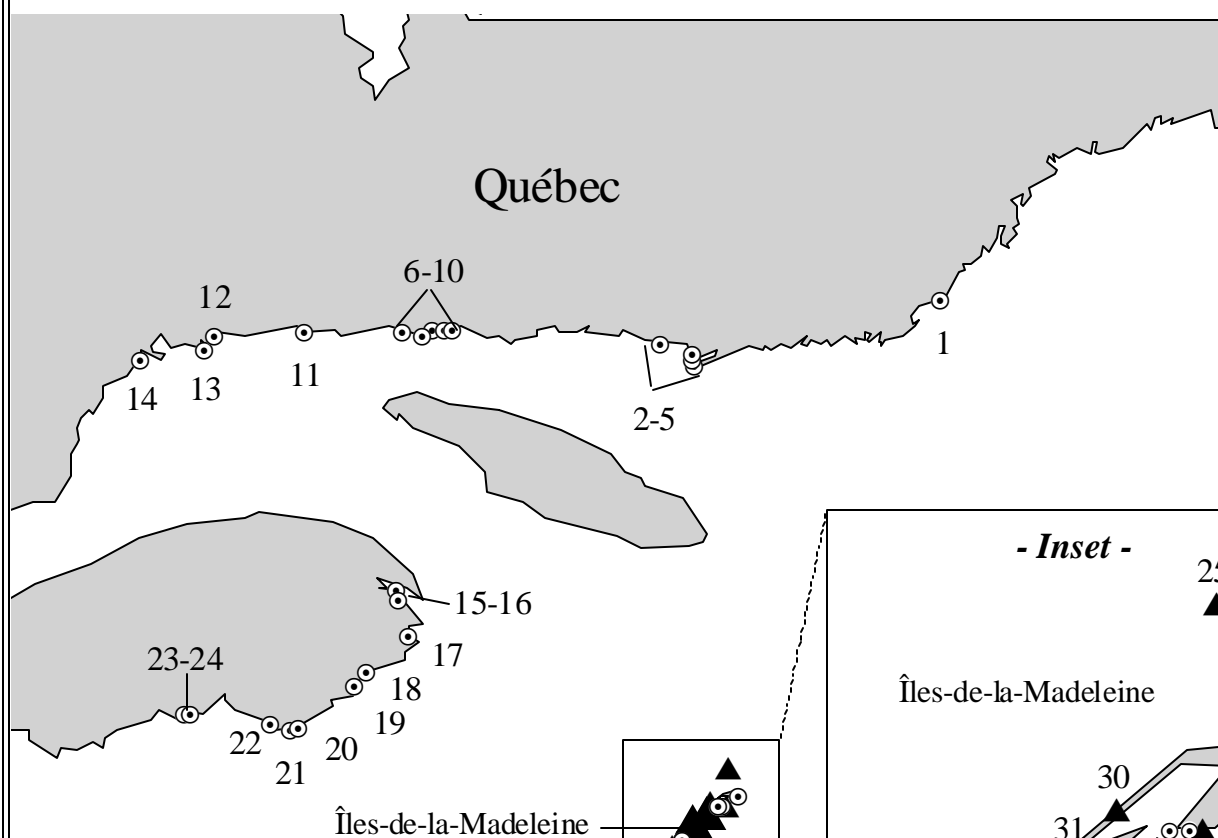
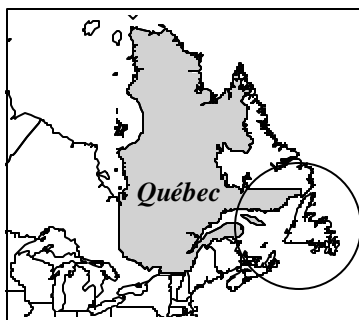


representative of the true breeding population of the Magdalen Islands.

When taken alone, results of the 1991, 1996 and 2001 censuses suggest that the breeding population of Piping Plovers in Québec is in decline. However, annual censuses since 1987 show that the population fluctuates considerably. In 1989 and 1990, there were 35 breeding pairs on the Magdalen Islands. The population subsequently grew annually to reach 53 pairs in 1995. Since then, it has dropped, perhaps as a result of increased predation.

Closing of municipal garbage dumps on the islands and a decrease in the amount of fish waste discarded at sea following the collapse of groundfish stocks probably substantially reduced the available food sources for predators such as gulls, ravens and crows. In addition, a moratorium on fox trapping on the Magdalen Islands has caused fox populations to increase significantly. All of these predators have had to find alternate food sources, which may be causing increased predation on Piping Plover eggs and young. Other factors that seem to be affecting the population include human disturbance and climate conditions.

2001 International Piping Plover Breeding Census - Québec -



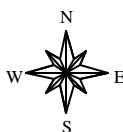
Îles-de-la-Madeleine

Québec PIPL Census

○ 0 Birds

▲ 1 - 10 Birds

▲ 11 - 30 Birds

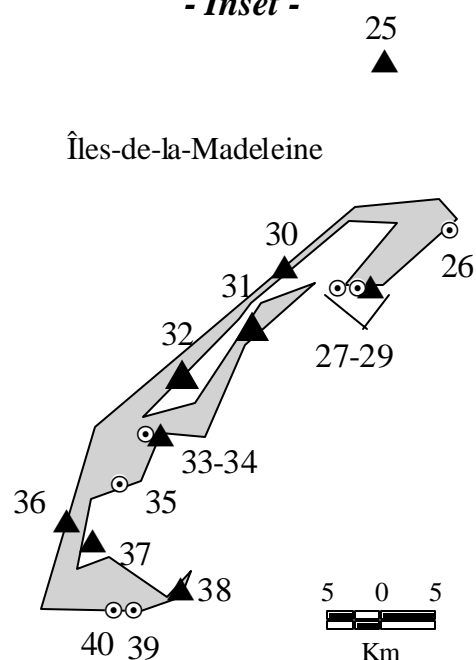


100 0 100

Kilometers

- Inset -

Îles-de-la-Madeleine



5 0 5
Km

The 2001 International Piping Plover Breeding Census in Québec

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Côte-Nord	Aguanish	5	6/14	0	0	5.7	I A 1		Yes	Yes	n.r.
Côte-Nord	Baie de Mingan	8	6/09	0	0	9.0	I A 1		Yes	Yes	n.r.
Côte-Nord	Chevery	1	6/15	0	0	2.5	I A 1		Yes	Yes	n.r.
Côte-Nord	Île Sainte-Hélène	3	6/16	0	0	2.0	I,III,V A 1		Yes	Yes	n.r.
Côte-Nord	Longue Pointe	9	6/10	0	0	4.0	I A 1		Yes	Yes	n.r.
Côte-Nord	Matamec	12	6/11	0	0	4.0	I A,D 1		Yes	Yes	n.r.
Côte-Nord	Moisie	13	6/11	0	0	2.0	I A 1		Yes	Yes	n.r.
Côte-Nord	Natashquan	4	6/15	0	0	6.0	I A 1		Yes	Yes	n.r.
Côte-Nord	Pointe du Curé	6	6/10	0	0	3.7	I A 1		Yes	Yes	n.r.
Côte-Nord	Pointe du Vieux Poste	2	6/16	0	0	6.5	I A,D 1		Yes	Yes	n.r.
Côte-Nord	Pointe Matarteux	7	6/10	0	0	1.5	I A,D 1		Yes	Yes	n.r.
Côte-Nord	Rivière aux Graines	11	6/08	0	0	3.0	I A 1		Yes	Yes	n.r.
Côte-Nord	Rivière Brochu	14	6/12	0	0	6.0	I A 1		Yes	Yes	n.r.
Côte-Nord	Rivière Saint-Jean	10	6/10	0	0	1.5	I A,D 1		Yes	Yes	n.r.
Gaspésie	Anse aux Îlots	19	6/12	0	0	0.8	I A 1,6,12		Yes	Yes	n.r.
Gaspésie	Barre de Sandy Beach	15	6/11	0	0	3.4	I D 1		Yes	Yes	n.r.
Gaspésie	Bonaventure	22	6/12	0	0	3.2	I A 1,6		Yes	Yes	n.r.
Gaspésie	Coin-du-Banc	17	6/07	0	0	7.3	I D 1		Yes	Yes	n.r.
Gaspésie	Haldimand	16	6/11	0	0	3.2	I D 1		Yes	Yes	n.r.
Gaspésie	Île-Groiseilles-Saint-Omer	24	6/07	0	0	0.8	II D 6,13		Yes	Yes	n.r.
Gaspésie	Île-Laviolette-Saint-Omer	23	6/07	0	0	1.4	II D 13		Yes	Yes	m
Gaspésie	New-Carlisle	21	6/07	0	0	2.7	I A 1,6		Yes	Yes	n.r.
Gaspésie	Paspébiac	20	6/12	0	0	2.8	I D 1,6		Yes	Yes	n.r.
Gaspésie	Plage du Grand Pabos	18	6/12	0	0	2.7	I A 1,6		Yes	Yes	n.r.
Îles-de-la-Madeleine	Bassin aux Huîtres est	27	6/09	4	8	1.7	I D,E 1	I D,E 1	Yes	Yes	s(p)
Îles-de-la-Madeleine	Bassin aux Huîtres ouest	28	6/09	0	0	0.6	I E 1		Yes	Yes	s(p)
Îles-de-la-Madeleine	Dune du Bassin	40	6/09	0	0	3.2	I E 1		Yes	Yes	s(p)
Îles-de-la-Madeleine	Dune du Nord	30	6/09	3	6	16.4	I E 1	I E 1	Yes	Yes	s(p)
Îles-de-la-Madeleine	Dune du Sud	31	6/09	8	16	19.9	I D,E 1	I D,E 1	Yes	Yes	s(p)
Îles-de-la-Madeleine	Île Brion	25	6/21	1	2	3.5	I E 1	I E 1	Yes	Yes	s(p)
Îles-de-la-Madeleine	La Digue	34	6/09	0	0	2.1	I,II E 1		Yes	Yes	s(p)
Îles-de-la-Madeleine	La Pointe	33	6/09	1	2	1.5	I,II E 1	I,II E 1	Yes	Yes	s(p)/p
Îles-de-la-Madeleine	Plage de l'Hôpital	32	6/09	8	16	17.5	I E 1	I E 1	Yes	Yes	s(p)

The 2001 International Piping Plover Breeding Census in Québec (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Îles-de-la-Madeleine	Plage de l'Ouest	36	6/09	3	6	11.0	I E 1	I E 1	Yes	Yes	s(p)
Îles-de-la-Madeleine	Plage du Havre	39	6/09	0	0	4.4	I E 1		Yes	Yes	s(p)
Îles-de-la-Madeleine	Plage Martinique-Havre-Aubert	37	6/09	4	8	12.6	I,II E 1	II E 1	Yes	Yes	s(p)
Îles-de-la-Madeleine	Pointe de la Grande-Entrée	29	6/09	0	0	0.8	I E 1		Yes	Yes	s(p)
Îles-de-la-Madeleine	Pointe de l'Est	26	6/09	0	0	19.5	I E 1		Yes	Yes	s(p)
Îles-de-la-Madeleine	Procul-Bourgeois	35	6/09	0	0	0.8	I,II E 1		No	Yes	s(p)
Îles-de-la-Madeleine	Sandy Hook	38	6/09	3	6	12.2	I D 1	I D 1	Yes	Yes	s(p)
Total				35	70	213.4					

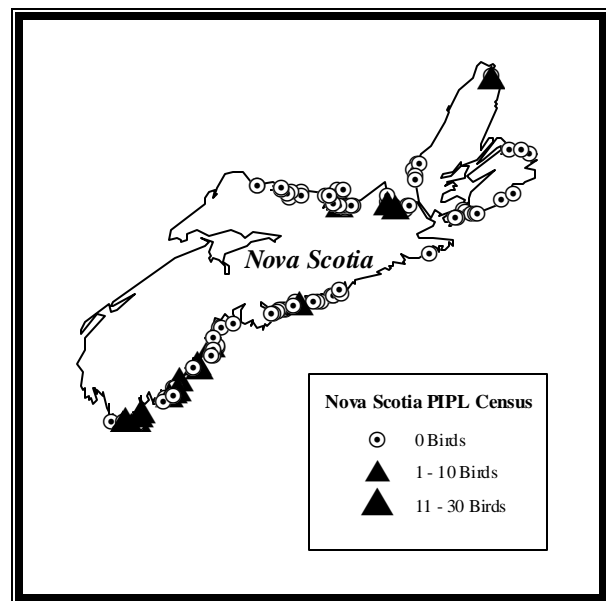
n.r. = not reported

The 2001 International Piping Plover Breeding Census in Nova Scotia

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All known Piping Plover sites were censused by 43 participants. One hundred and eighteen beaches were censused, including 16 new sites. A total of 93 birds (45 pairs) were counted, up from 79 birds (33 pairs) in 1996. This is consistent with the annual provincial censuses of the past four years. Due to the intense coverage of known and possible breeding sites, we feel that the numbers adequately represent the actual population for Nova Scotia.

Only three beaches censused in 1996 were missed due to weather, none of those sites had Piping Plovers in the past. Some areas with poor habitat that never had Piping Plovers could be dropped from the census. Most available



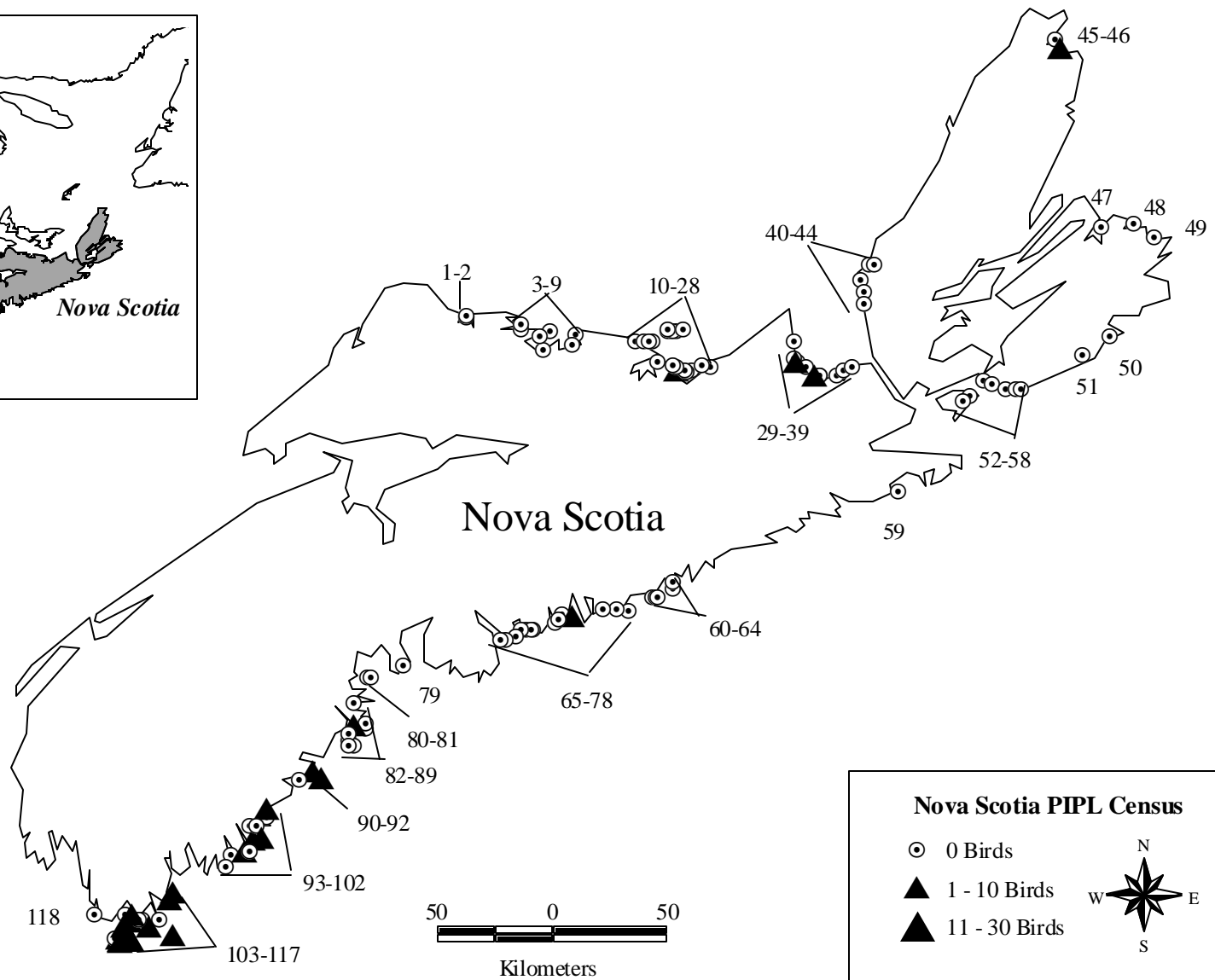
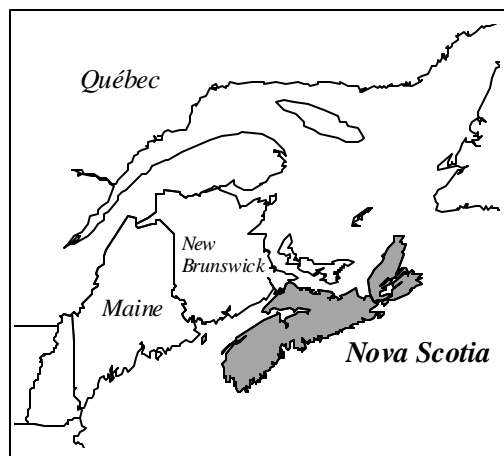
habitat is covered during the census now.

Piping Plovers in Nova Scotia are affected by a number of factors including marginal habitat, narrow beaches, heavy human use during the breeding season, sunbathing, walking, ATV's and other vehicles, and degradation of habitat due to winter storms.

Rejuvenation of the Piping Plover Guardian Program in Nova Scotia this year did and will continue to help improve public awareness.

Beaches known to have Piping Plovers are posted, and often nesting areas are identified using string or plastic fencing and also nest exclosures.

2001 International Piping Plover Breeding Census - Nova Scotia -



The 2001 International Piping Plover Breeding Census in Nova Scotia

COUNTY/ REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Antigonish	Bayfield Beach	35	6/11	0	0	2.5	I A 1		Yes	Yes	p
Antigonish	Cribbon's Beach/South Lakevale	29	6/07	0	0	0.5	I A 1		No	Yes	p
Antigonish	Dunn's Beach	32	6/07	0	0	2.0	I A 1		Yes	Yes	p
Antigonish	Ferry Road Beach (Graham's Cove)	36	6/11	0	0	1.5	I A 1		Yes	Yes	p
Antigonish	Linwood Beach	39	6/08	0	0	1.5	II B 6		No	Yes	p
Antigonish	Mahoney's Beach	31	6/11	4	6	2.5	I B 1	I B 1	Yes	Yes	p
Antigonish	Monk's Head Beach/Pond & Captain's Pond	33	6/11	0	0	3.0	I,II A,B 1,6,10		Yes	Yes	p
Antigonish	Ogdens Pond Beach	30	6/07	0	0	0.5	I B 1		No	No	p
Antigonish	Pomquet Beach Park	34	6/06	2	6	3.0	I A 1	I A 1	Yes	Yes	s(p)
Antigonish	Tracadie Big Island/Delorey Island	38	6/08	0	0	2.0	I B 6		Yes	Yes	p
Antigonish	Tracadie West Arm	37	6/08	0	0	2.0	I B 6		Yes	Yes	p
Cape Breton	Belfray Beach to Winging Point	50	6/15	0	0	5.0	I,II A,E 1,4,6		No	No	s(p)
Cape Breton	Dominion (Lingan) Beach	48	6/13	0	0	2.5	I D 4,10,13		Yes	Yes	s(p)
Cape Breton	Glance Bay Bar	49	6/12	0	0	2.0	I D 4,10,13		Yes	Yes	p
Cape Breton	South Bar Beach	47	6/12	0	0	1.5	II D 4,10,13		No	Yes	p
Colchester	Sand Point Beach	7	6/05	0	0	0.5	II D 2,4,13		No	Yes	p
Cumberland	Cameron Beach	1	6/07	0	0	0.7	II A 2		Yes	Yes	p
Cumberland	Hortons Point (Beach)	4	6/06	0	0	1.0	II A 2		Yes	Yes	p
Cumberland	Long Point (Beach)	5	6/05	0	0	0.3	II D 2,4,8,13		Yes	Yes	p
Cumberland	Oak Island Beach	3	6/06	0	0	4.0	II B 2,4		Yes	Yes	p
Cumberland	Treen Point (Malagash Mines)	6	6/05	0	0	1.0	I,II,III D 1,12		Yes	Yes	s(p)
Cumberland	West Pugwash Beach	2	6/07	0	0	1.0	II A 2		Yes	Yes	p
Guysborough	Tor Bay Provincial Park Beach	59	6/14	0	0	1.0	I A 1		No	Yes	s(p)
Halifax	Baltee Island/Romkey's Point Beach	64	6/15	0	0	0.2	I,II E 1		No	Yes	s(p)
Halifax	Bull Beach	60	6/18	0	0	0.2	I,II A 1		No	Yes	s(p)
Halifax	Clam Harbour Beach	66	6/09	0	0	1.0	I A 1,10,12		Yes	Yes	s(p)
Halifax	Conrad's Beach (East & West)	74	6/14	0	0	2.0	I B 1,10,12		Yes	Yes	s(p)
Halifax	Conrod's Beach	69	6/08	0	0	0.8	I,II A 6,8,10		Yes	Yes	p
Halifax	Cow Bay Beach (Silver Sands)	76	6/05	0	0	1.2	I D 11,13		Yes	Yes	p
Halifax	Fisherman's Beach	71	6/08	0	0	1.5	I D 8,13		No	Yes	s(p)
Halifax	Lawrencetown Beach	73	6/14	0	0	2.0	I A 1,11,12		No	Yes	s(p)
Halifax	Little Harbour (The Sandbar Beach)	65	6/11	0	0	1.1	I A 1,12		No	No	p
Halifax	Long/Meiser's Beach	70	6/08	0	0	1.2	I A 1,10,13		No	Yes	s(p)

The 2001 International Piping Plover Breeding Census in Nova Scotia (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Halifax	Martinique Beach	68	6/07	1	3	2.5	I B 1,10,12	I B 1	Yes	Yes	s(p)
Halifax	Maugher Beach, McNabs Island	78	6/05	0	0	1.6	I,II E 1,6		Yes	Yes	s(p)
Halifax	McCormick's Beach (Eastern Passage)	77	6/05	0	0	1.0	II D 6,8,10		No	Yes	s(p)
Halifax	Porcupine Hill Island/Sandy Cove East Beach	62	6/15	0	0	0.2	I,II E 1		No	Yes	p
Halifax	Porcupine Hill Island/Sandy Cove West Beach	63	6/15	0	0	0.2	I,II E 1		No	No	p
Halifax	Rainbow Haven Beach (Cole Harbour)	75	6/05	0	0	1.6	I,II B 1		Yes	Yes	s(p)
Halifax	Stoney Beach (Lawrencetown Head)	72	6/08	0	0	0.5	I,V A 1,11,12		Yes	Yes	s(p)
Halifax	Taylor Head Beach	61	6/18	0	0	1.0	I,II A 1		Yes	Yes	s(p)
Halifax	West Marsh/Seapool Beach	67	6/10	0	0	1.5	I A 1,10,12		Yes	Yes	p
Inverness	Big Rory's Point/Emerson Point	40	6/07	0	0	0.7	I A 1,6,11		Yes	Yes	p
Inverness	Colindale Beach	44	6/11	0	0	0.5	I A 1,6,11,12		Yes	Yes	s(p)
Inverness	Little Judique Harbour	41	6/07	0	0	0.9	I A 1,6,11,12		Yes	Yes	p
Inverness	Port Hood Beach	42	6/11	0	0	2.4	I A 1,12		Yes	Yes	s(p)/m/p
Inverness	South West Mabou Beach	43	6/11	0	0	1.6	I A 1,12		No	No	s(p)
Lunenburg	Bayswater Beach	79	6/06	0	0	0.1	I A 1,10,12		Yes	Yes	s(p)
Lunenburg	Cape Bay, Cape Lehave	89	6/11	0	1	1.0	I E 1,10,12	Not specified	Yes	Yes	m
Lunenburg	Cherry Hill Beach	90	6/06	3	6	2.0	I A 1,6,10,12	I A 1,6	Yes	Yes	s(p)
Lunenburg	Halibut Bay, Cape LeHave Island	88	6/11	0	0	0.1	I E 1,6,10		Yes	Yes	m
Lunenburg	Hirtle's Beach	84	6/10	0	0	2.0	I A 1		Yes	Yes	m
Lunenburg	Kingsburg Beach	83	6/05	0	0	1.0	I A 1,6,12		No	Yes	p
Lunenburg	Mason's Beach	82	6/05	0	0	0.5	I A 1,6		Yes	No	p
Lunenburg	Mason's Island Beach	81	6/14	0	0	0.8	I E 1,6,10		Yes	Yes	p
Lunenburg	Mosher's Island, Sloop Cove	86	6/11	0	0	0.1	I E 1,6,10		Yes	Yes	p
Lunenburg	Oxner's Beach	85	6/20	1	2	0.1	I A 1,6	I A 1,6	No	No	n.r.
Lunenburg	Rafuse Island	80	6/14	0	0	0.3	I E 1,6,10		Yes	Yes	p
Lunenburg	The Creek (Cape LeHave Island)	87	6/11	0	0	1.5	I E 1,6,10		No	Yes	m
Pictou	Big Merigomish Island Beach	28	6/11	0	0	2.5	I E 1		Yes	Yes	s(p)
Pictou	Bowen Island	23	6/07	1	2	1.5	II B 1,4,8	II B 1	Yes	Yes	p
Pictou	Cape John, Megs Cove	9	6/08	0	0	1.0	I,II A 1,12		No	No	p
Pictou	Caribou Island, Black Point to Hawksbill Point	12	6/05	0	0	1.0	I,II,III E 1		No	Yes	s(p)
Pictou	Caribou Island, Caribou Reef	13	6/05	0	0	1.0	I,II,III E 1		No	Yes	p
Pictou	Caribou Island, Narrows	11	6/05	0	0	0.5	I,II,III E 1		No	No	p
Pictou	Chance Harbour Beach	27	6/04	0	0	1.0	I,II,III A 1,12		No	Yes	p

The 2001 International Piping Plover Breeding Census in Nova Scotia (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Pictou	East End Beach, Pictou Island	19	6/12	0	0	1.3	I,II,III E 1		No	No	p
Pictou	James Beach and Little Harbour Spit	22	6/07	0	0	1.2	I,II A,D 1,2,4,12		Yes	Yes	p
Pictou	John Dans Cove, Pictou Island	17	6/12	0	0	0.7	I,II,III E 1		No	No	p
Pictou	Kings Head (Chisholm Beach)	25	6/06	0	0	0.5	II,III D 4,8,12		Yes	Yes	p
Pictou	Lighthouse Beach, Pictou Bar Spit	20	6/06	0	0	1.0	I,II,III D 2,12		Yes	Yes	f/s(p)
Pictou	Melmerby Beach	24	6/06	0	0	2.5	I,II,III A 1		Yes	Yes	s(p)
Pictou	Murray Beach, Rushton Park	8	6/08	0	0	1.5	I,II,III A 1,12		Yes	Yes	s(p)
Pictou	North Shore Beach, Pictou Island	15	6/12	0	0	0.8	I,II,III E 1		No	Yes	p
Pictou	Roger Point, Pictou Island	18	6/12	0	0	1.2	I,II,III E 1		No	Yes	p
Pictou	Savage Point, Big Merigomish Island	26	6/11	0	0	1.0	I,II E 1		Yes	Yes	p
Pictou	Sinclair's Island Beach, Roaring Bull Point	21	6/05	0	0	0.8	I,II,III A 1,2,4,12		Yes	Yes	p
Pictou	Waterside Beach Park	10	6/05	0	0	1.0	I,II,III A 1		Yes	No	s(p)
Pictou	West End Beach, Pictou Island	16	6/12	0	0	0.3	I,II,III E 1		No	No	p
Pictou	Wharf Beach, Pictou Island	14	6/12	0	0	0.3	I,II,III E 1		No	No	p
Queens	Back Beach, Port Mouton Island	99	6/20	0	0	0.8	I E 1,10		Yes	Yes	p
Queens	Beach Meadows Beach	92	6/06	0	0	1.0	I A 1,10,12		Yes	Yes	m
Queens	Carter's/Wobamkek Beach	94	6/04	0	0	1.0	I A 1,12		Yes	Yes	p
Queens	Little Port Joli Beach	97	6/20	0	0	1.5	I,II A 1,2,12		Yes	Yes	f
Queens	Port Joli Harbour Beach	96	6/12	0	0	2.0	I A 1,6,10		Yes	Yes	p
Queens	Ragged Harbour Beach	91	6/07	1	2	0.3	I A 1,6	I A 1,6	No	Yes	s(p)
Queens	Sandy Bay Beach	98	6/06	0	1	1.0	I A 1	I A 1	Yes	Yes	s(p)/p
Queens	St. Catherine's Beach	95	6/11	4	8	1.6	I,II,V A 1,2,12	I,II,V A 1,2,12	Yes	Yes	f
Queens	Summerville Beach	93	6/04	2	4	1.0	I A 1	I A 1	Yes	Yes	s(p)
Richmond	Crossroads/L'Ardoise Beach	54	6/13	0	0	3.0	I,II A 1,10		No	No	s(p)/p
Richmond	Grand Greve Beach	56	6/13	0	0	3.0	I,II A 1,10		No	No	s(p)/p
Richmond	Morrison Beach, Framboise	51	6/12	0	0	2.0	I,II A 1,10		No	No	s(p)/p
Richmond	Point Michaud Beach	53	6/13	0	0	3.0	I,II A 1,10		No	No	s(p)/p
Richmond	Pondville Beach	58	6/18	0	0	0.5	I A 1,10		No	No	s(p)/p
Richmond	Rear Point Michaud Beach	52	6/18	0	0	0.5	I A 1,10		No	No	s(p)/p
Richmond	Rockdale Beach	55	6/13	0	0	3.0	I,II A 1,10		No	No	s(p)/p
Richmond	Rocky Bay Beach	57	6/18	0	0	1.0	I A 1,10		No	No	s(p)/p
Shelburne	Baccaro Beach	107	6/11	4	8	1.5	I A 1,6	I A 1,6	Yes	Yes	s(p)

The 2001 International Piping Plover Breeding Census in Nova Scotia (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Shelburne	Black Point Beach	102	6/11	0	0	3.0	I A 1		Yes	Yes	p
Shelburne	Blanche Point	106	6/15	0	0	0.5	I A 1,12		Yes	Yes	p
Shelburne	Burk's Point	109	6/06	0	0	1.0	I A 1,12		Yes	Yes	p
Shelburne	Clam Point	112	6/13	1	2	1.0	I A 1,12	I A 1	Yes	Yes	s(p)
Shelburne	Daniels Head/Southside	114	6/08	6	12	2.0	I A 1	I A 1	Yes	Yes	n.r.
Shelburne	Fish Island	118	6/14	0	0	0.5	I E 1		No	No	n.r.
Shelburne	Fox Bar Beach	105	6/04	2	4	1.4	I A 1,6	I A 1,6	Yes	Yes	p
Shelburne	Goose Point Beach	108	6/06	0	0	1.0	I A 1,12		Yes	Yes	p
Shelburne	Johnston's Pond	100	6/08	1	2	0.9	I A 1,6,8	I A 6,8	Yes	Yes	s(p)/p
Shelburne	Louis Head Beach	101	6/06	0	0	1.9	I A 1		Yes	Yes	s(p)/p
Shelburne	North East Point Beach	111	6/11	0	0	1.5	I A 1		Yes	Yes	p
Shelburne	Ratcliffe Hills Beach	117	6/14	0	0	1.0	I E 1,12		No	No	s(p)
Shelburne	Red Head Beach	104	6/12	1	2	2.0	I A 1	I A 1	Yes	Yes	p
Shelburne	Round Bay & Roseway	103	6/06	2	4	0.8	I A 1,6	I A 1	Yes	Yes	p
Shelburne	Sand Hills Beach (Sabim Beach)	110	6/12	3	6	1.4	I,II A 1,8	I A 1,8	Yes	Yes	s(p)
Shelburne	Stoney Island Beach (Cape Sable Island)	113	6/11	1	2	2.2	I A 1	I A 1	Yes	Yes	s(p)/p
Shelburne	The Cape, Inner Beach	115	6/14	1	2	3.0	I E 1,6	I E 1	Yes	Yes	n.r.
Shelburne	The Hawk Beach & Hawk Point	116	6/11	3	6	2.0	I A,E 1,6	I A 1,6	Yes	Yes	p
Victoria	North Harbour Beach	45	6/16	0	0	2.0	I D 4,13		Yes	Yes	s(p)
Victoria	South Harbour Beach	46	6/22	1	2	1.5	I,II A,B,D 1,2,4,10,12,13	I A 1	Yes	Yes	n.r.
Total				45	93	158.9					

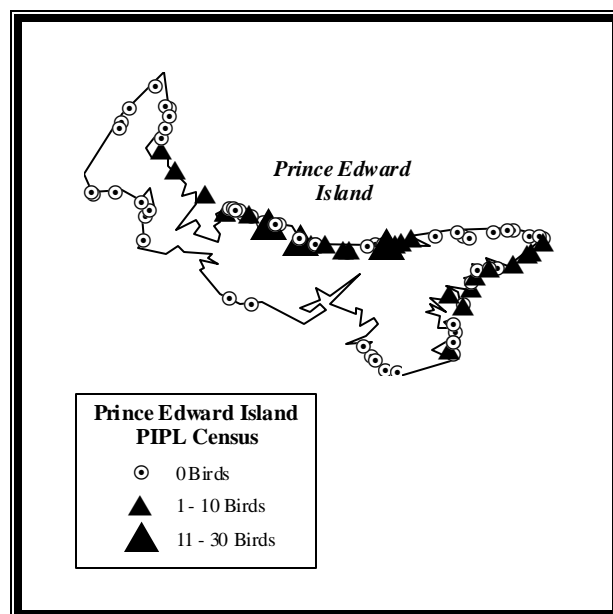
The 2001 International Piping Plover Breeding Census on Prince Edward Island

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The Prince Edward Island section of the 2001 International Piping Plover Breeding Census was conducted between 7 and 22 June, using 59 trained volunteers and staff of Island Nature Trust and PEI National Park. Census coordinators feel the 2001 census results adequately represent the actual population. There were 87 beaches and 188 kilometers surveyed. In 2001, 112 Piping Plovers were found on 21 beaches (76 plovers) outside PEI National Park (PEI NP) and on 7 beaches (36 plovers) inside park boundaries. Unprotected beaches (no formal protection) now host 68% of the population. In addition, plovers appeared in more eastern and southeastern beaches than in any previous survey.

The effort in 2001 was greater than in 1996. Fifteen additional beaches were surveyed than in 1996 and 33 additional beaches were surveyed over 1991. A total of 14 beaches not surveyed in either 1991 or 1996 were surveyed in 2001. Fifty-two (52) beaches were surveyed in all three years. All known plover habitat was censused. Three beaches surveyed in 1991 and a fourth surveyed in 1996 were not surveyed in 2001, as they had no plover habitat in 2001. Overlap of surveyed areas is otherwise complete, covering all suitable plover habitat. No additional areas were identified for census in future years.

In 1991, 110 Piping Plover were found. This number fell to 65 in 1996. For 2001



an increase of 70% over 1996 and 1.8% over 1991 is somewhat encouraging. Notable changes in numbers of plovers from 1991 or 1996 occurred at Jacques Cartier, Cascumpec Island, Campbells Pond, North Rustico Sandbar, Rustico Causeway, Brackley Main, Blooming Point, St. Peters Harbour, Greenwich/Schooner, Basin Head, Black Pond, Souris Causeway, Old Ferry Spit, Boughton Island and Poverty Beach. The latter six beaches are eastern and southeastern beaches that had no plovers in previous International Censuses, thus the PEI plover population appears to be making an eastern shift. In addition, 15 Kings County beaches had plovers in 2001, whereas four beaches in this eastern county had plovers in 1996 and nine had plovers in 1991.

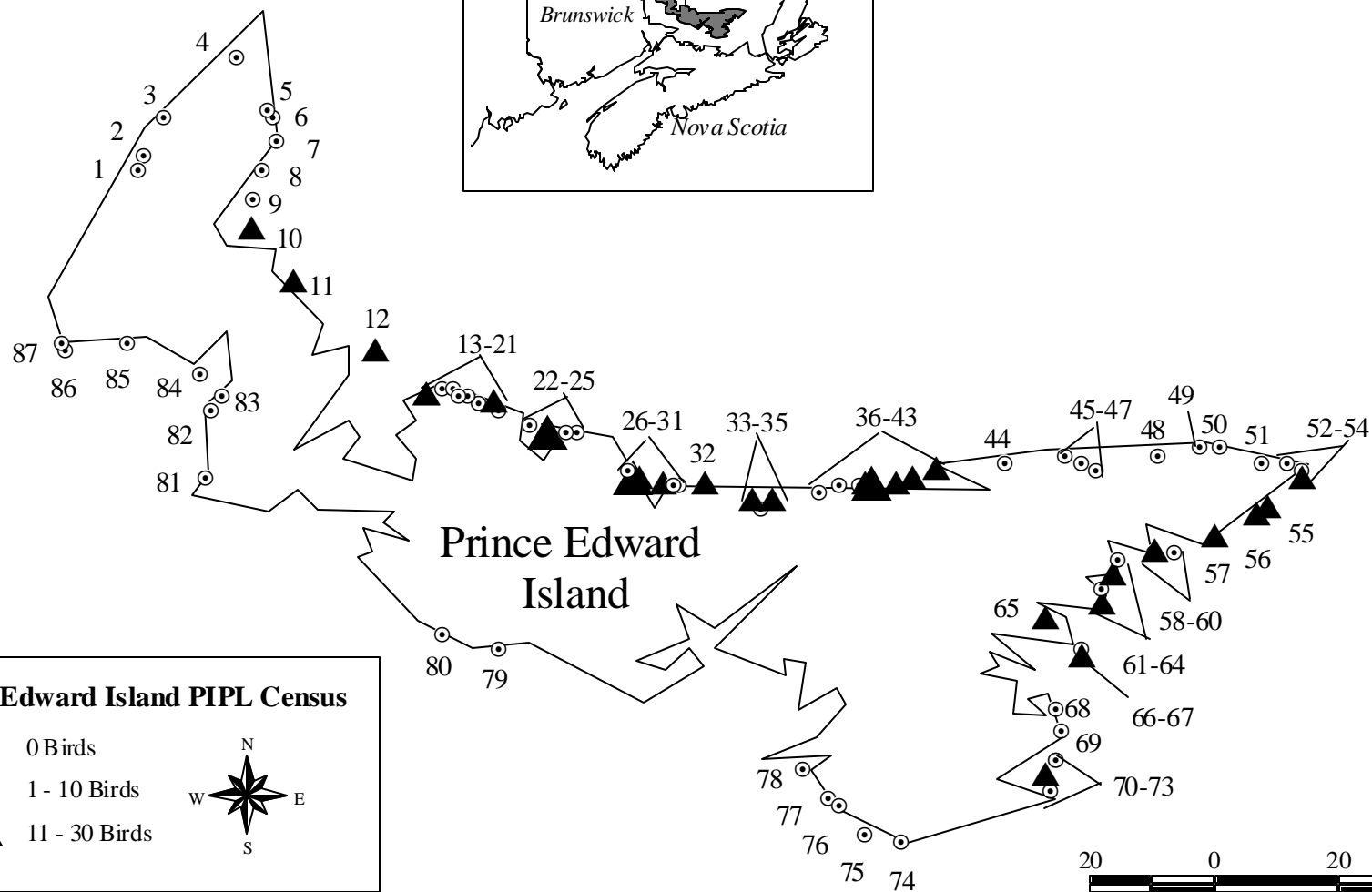
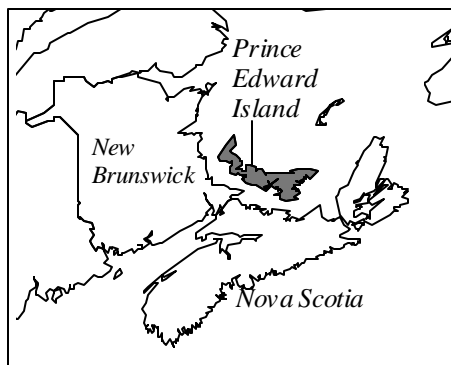
Protection of plovers inside PEI NP remains high, with closed areas, enforcement, education, daily monitoring, use of exclosures on many nests, and the protection of the National Park designation. Protection of plovers outside PEI NP has improved considerably within all nesting areas (except difficult to access off-shore islands) protected by signage and symbolic fencing. Additionally, there is regular monitoring by volunteers and staff and use of exclosures where monitoring can be maintained at required levels. Productivity and effort is monitored at all nests (except off-shore islands),

and liaison with authorities is good. Also, a regional banding study by Canadian Wildlife Service is beginning to show good results.

Disturbance to nesting plovers includes humans, both pedestrian and vehicular, as well as loose dogs. Enforcement of existing legislation is

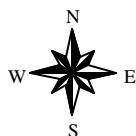
difficult and rare on beaches outside PEINP. Habitat is abundant, is under utilized and dispersed across the province. Factors affecting population numbers include predation of eggs (high in 2001), weather (storm events) and human disturbance (if nests are not protected in any way).

2001 International Piping Plover Breeding Census - Prince Edward Island -



Prince Edward Island PIPL Census

- 0 Birds
- ▲ 1 - 10 Birds
- ▲ 11 - 30 Birds



The 2001 International Piping Plover Breeding Census on Prince Edward Island

REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Kings	Basin Head	56	6/08	2	4	5.0	I F 1,6,12	I F 1	Yes	Yes	s(p)
Kings	Beach Point	73	6/10	0	0	1.2	I A 1		Yes	Yes	p
Kings	Black Pond	57	6/09	1	2	2.0	I A 1,4,12	I A 12	No	Yes	s(p)
Kings	Boughton Bay (Old Ferry Spit)	65	6/11	1	2	2.3	I D 2	I D 2	Yes	Yes	s(p)
Kings	Boughton Island	67	6/09	1	2	4.0	I B,D 1,2	I D 2	Yes	Yes	p
Kings	Cable Head	44	6/11	0	0	1.0	I A 1,11		Yes	Yes	p
Kings	Campbells Cove	50	6/07	0	0	1.0	I,II A 1,11		No	No	s(p)
Kings	Canavoy	39	6/09	7	13	3.5	I A 1,11,12	I A 1,11	Yes	Yes	s(p)
Kings	Condots Pond	71	6/11	0	0	3.0	I A 1,10		No	No	p
Kings	Cow River	45	6/09	0	0	0.5	I A 1		Yes	No	s(p)
Kings	Cross River	48	6/09	0	0	1.0	I A 1		Yes	Yes	s(p)
Kings	Diligent Pond	54	6/07	1	3	1.0	I A 1,2,12	I A 1	Yes	Yes	p
Kings	East Lake	52	6/08	0	0	2.0	I A 1		Yes	Yes	s(p)
Kings	East Point	53	6/07	0	0	1.2	I A 1		No	No	p
Kings	Eglington Cove	62	6/07	1	2	1.0	I A 1,2,12	I A 1	Yes	Yes	s(p)
Kings	Fortune Beach	61	6/09	0	0	2.0	I A 1		No	No	p
Kings	Grahams Pond	70	6/11	0	0	1.5	I A 1		No	No	p
Kings	Greenwich/Schooner	43	6/09	1	2	6.0	I,II A 1	I A 1	Yes	Yes	f
Kings	Howe Bay	63	6/11	0	0	2.0	I D 2		Yes	Yes	s(p)
Kings	Lake Run (St. Peter's)	41	6/09	1	2	1.5	I,III A,F 1	I A 1	Yes	Yes	s(p)/p
Kings	Launching Point	66	6/10	0	0	1.0	I A 1		Yes	Yes	s(p)
Kings	Naufrage	46	6/08	0	0	1.0	I A 1		Yes	Yes	s(p)
Kings	Norris Pond	58	6/09	0	0	0.8	I A 1,4		No	No	p
Kings	North Lake	51	6/07	0	0	0.5	I A 1		Yes	Yes	s(p)
Kings	Panmure Island	68	6/07	0	0	2.5	I A 1		Yes	Yes	s(p)
Kings	Pigots Pond	38	6/08	0	0	1.0	I A 6		No	No	s(p)
Kings	Poverty Beach	72	6/10	1	2	2.0	I F 2,11	I F 11	Yes	Yes	s(p)
Kings	Priest Pond	49	6/07	0	0	1.0	I A 1,11		Yes	Yes	p
Kings	Saint Margaret's	47	6/09	0	0	1.8	I A 1		No	Yes	p
Kings	Saint Peter's Harbour	42	6/09	3	4	2.5	I,III A 1,11,12	I A 11	Yes	Yes	p
Kings	Savage Harbour West	40	6/08	1	2	0.3	II D 12	II D 12	Yes	Yes	s(p)

The 2001 International Piping Plover Breeding Census on Prince Edward Island (Continued)

REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Kings	Sheep Pond	60	6/09	0	0	0.5	I A 1		No	No	p
Kings	Souris Causeway	59	6/09	1	3	1.0	I A 1,4	I A 1	Yes	Yes	s(p)
Kings	South Lake	55	6/09	1	2	5.0	I F 1,6,12	I F 1,6	Yes	Yes	s(p)
Kings	Spry Cove	64	6/13	0	1	2.3	I D 2	I D 2	Yes	Yes	s(p)
Kings	Steele's Pond	69	6/09	0	0	1.0	I A 1		No	No	p
Prince	Barachois Run	82	6/09	0	0	2.0	I A 1		Yes	Yes	p
Prince	Black Pond West	3	6/07	0	0	1.0	I F 1,6		No	Yes	s(p)
Prince	Cabot Provincial Park	14	6/10	1	2	1.5	I A 1	I A 1	Yes	Yes	s(p)
Prince	Cape Traverse	80	6/18	0	0	2.0	I D 1,4		Yes	Yes	p
Prince	Cascumpec Island	10	6/14	3	5	2.0	I B 1	I B 1	Yes	Yes	f/s(p)/p
Prince	Cedar Dunes Park	86	6/11	0	0	2.0	I A 1		Yes	Yes	s(p)
Prince	Cedar Dunes West	87	6/11	0	0	3.0	I A 1,11		Yes	Yes	s(p)/p
Prince	Conway Island	11	6/14	1	5	3.0	I B 1	I B 1	Yes	Yes	f/s(p)/p
Prince	Darnley Point	13	6/09	0	1	1.0	I A 1	I A 1	Yes	Yes	p
Prince	Foley's Pond (The Gap)	8	6/08	0	0	1.9	I A 1		No	Yes	p
Prince	Grand Digue Point	84	6/17	0	0	1.0	I F 2		No	No	s(p)/p
Prince	Higgins Wharf	83	6/09	0	0	2.0	I,II E 1,6		No	No	s(p)/p
Prince	Hog Island	12	6/14	2	4	3.5	I B 1	I B 1	Yes	Yes	f/s(p)/p
Prince	Indian Point Sand Hills	85	6/22	0	0	4.7	I B,D 1		Yes	Yes	s(p)
Prince	Jacques Cartier East	9	6/08	0	0	6.0	I A 1		Yes	Yes	s(p)
Prince	Kildare Capes	7	6/08	0	0	2.6	I A 1		Yes	Yes	p
Prince	Little Miminegash	1	6/07	0	0	1.0	I F 1,6		No	Yes	s(p)/p
Prince	Maximeville	81	6/09	0	0	2.0	I,II A,E 1		No	Yes	s(p)
Prince	Miminegash Pond	2	6/07	0	0	1.5	I A 1,6,12		Yes	Yes	s(p)
Prince	Morrison's Pond	16	6/09	0	0	1.5	I A 1		No	Yes	p
Prince	Nail Pond	4	6/07	0	0	3.0	I F 1,6,12		Yes	Yes	s(p)
Prince	Profitt's Point	15	6/09	0	0	1.5	I A 1		No	Yes	p
Prince	Round Pond	6	6/07	0	0	2.4	I A 1		No	Yes	p
Prince	Tignish Shore	5	6/07	0	0	2.6	I A 1		Yes	Yes	s(p)/p
Queens	Adam's Cottages	17	6/09	0	0	1.5	I A 1		No	No	p

The 2001 International Piping Plover Breeding Census on Prince Edward Island (Continued)

REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Queens	Adam's Pond	18	6/11	0	0	1.0	I A 1,11		No	Yes	p
Queens	Bell Point	75	6/10	0	0	1.5	I A 1		Yes	Yes	p
Queens	Blooming Point	35	6/07	3	5	7.5	I A 1	I A 1	Yes	Yes	f
Queens	Brackley Main	31	6/09	0	0	1.2	I A 1		Yes	Yes	f
Queens	Brander's Pond	19	6/08	0	0	1.0	I A 1,12		No	Yes	p
Queens	Campbell's Pond	20	6/09	0	0	1.0	I A 1,12		No	Yes	p
Queens	Cavendish Campground Beach	25	6/08	0	0	1.1	I A 1		No	Yes	f
Queens	Cavendish Main	24	6/08	0	0	1.1	I A 1		No	Yes	f
Queens	Cavendish Sandspit	23	6/08	7	13	10.0	I,II A 1	I,II A 1	Yes	Yes	f
Queens	Cousin's Pond	21	6/09	1	2	2.0	I A 1,12	I A 1,12	Yes	Yes	s(p)/p
Queens	Covehead Harbour West	32	6/09	4	9	3.5	I,II A 1	I,II A 1	Yes	Yes	f
Queens	Deroche Point	36	6/08	0	0	5.0	I A 1		Yes	Yes	s(p)
Queens	Feehan's Point	37	6/07	0	0	1.8	I A 1,6,10		No	No	p
Queens	Gascoigne Cove East	76	6/10	0	0	1.0	I A,D 1,4,12		Yes	Yes	s(p)
Queens	Gascoigne Cove West	77	6/10	0	0	2.0	I A,D 1,4,10,12		Yes	Yes	s(p)
Queens	North Rustico Beach	26	6/08	0	0	1.0	I A 1		No	Yes	f
Queens	North Rustico Sandbar	27	6/10	5	13	1.0	I,II D 4,11,12	ID 4,11	No	Yes	s(p)
Queens	Pond Point	78	6/10	0	0	0.9	I A,D 1,2,12		Yes	No	p
Queens	Robinson's (Rustico) Island Sandspit	28	6/09	1	2	1.2	I A 1	I A 1	Yes	Yes	f
Queens	Rustico Causeway	29	6/09	2	4	2.3	I A 1	I A 1	Yes	Yes	f
Queens	Shaw's Beach	30	6/09	0	0	1.2	I A 1		Yes	Yes	f
Queens	Tracadie Beach to Covehead Harbour	33	6/09	1	1	8.8	I A 1	I A 1	Yes	Yes	f
Queens	Tracadie Sandbar	34	6/10	0	0	2.0	II D 1		Yes	Yes	p
Queens	Tryon River	79	6/18	0	0	1.0	V D 1,4		No	Yes	p
Queens	Wood Islands	74	6/10	0	0	3.0	I,II D 1,4		Yes	Yes	s(p)/p
Queens	Yankee Beach	22	6/09	0	0	2.0	I A 1		No	Yes	s(p)/p
Total				54	112	188.0					

The 2001 International Piping Plover Breeding Census in New Brunswick

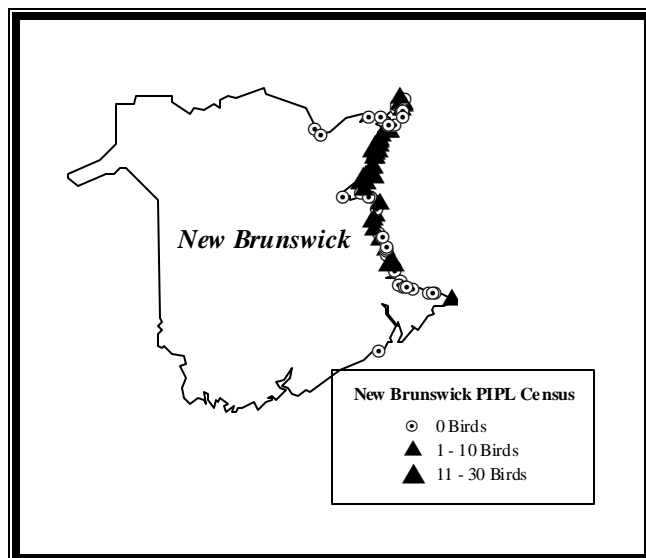
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All known suitable habitat in the province was surveyed during the census window with the exception of the northern end of Middle Misco Beach. The site could not be surveyed during the window due to difficulties in accessing the area. This site did have two plovers in 1996 and seven in 1999. The site was surveyed in 2001 after the census window, on 12 July, and no plovers were seen.

Other sites not censused are Pointe Sapin Beach and Tern Island (Kouchibouguac National Park). Both of these sites are thought to have little or no suitable habitat and little chance of harboring plovers. Additionally, a portion of Waterside Beach was not surveyed because it could not be accessed without a boat. Plovers have not been seen at Waterside Beach since 1991.

Areas of known potential habitat for Piping Plovers within the province are well described and have been surveyed. However, because changes in the coastal zone continually occur, evaluations should be completed every five years to determine whether survey effort is necessary in previously unexplored areas.

The number of sites has increased since 1991 and a larger area is now surveyed. Some of the new sites resulted from geographical subdivisions or combinations of old sites.



Several represent newly discovered Piping Plover sites (i.e., Chockpish Nord). Overall in 1991, 49 sites were surveyed representing 171.8 km. In 1996, 55 sites were surveyed comprising 213.4 km. In 2001, 66 sites were surveyed encompassing 302.5 km.

The population estimate for the 2001 census increased to 167 adults from the 1996 figure of 146, however it remains lower than the 1991 estimate of 203. This represents a 14% increase from 1996 and an 18% decrease since 1991. The provincial population appears to be stabilizing, as the 28% decrease reported between 1991 and 1996 has been reversed.

The results reported accurately reflect the status of the New Brunswick population for the following reasons: all known suitable habitat in the province was surveyed with few exceptions; the numbers reported reflect approximately similar results as in recent years; there were no adverse weather or disturbance factors that would have influenced the results obtained on a provincial scale; and survey techniques were consistent.

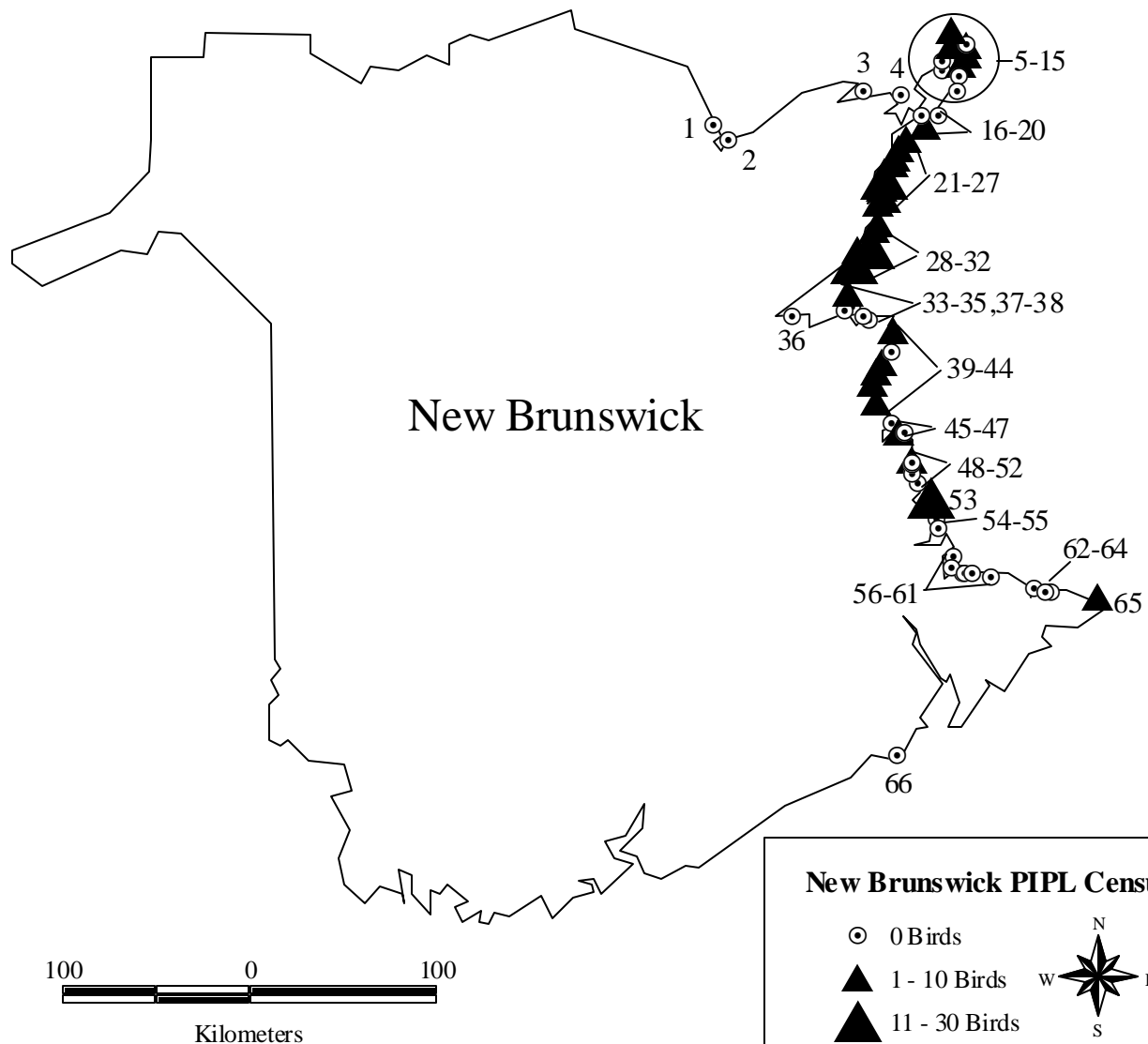
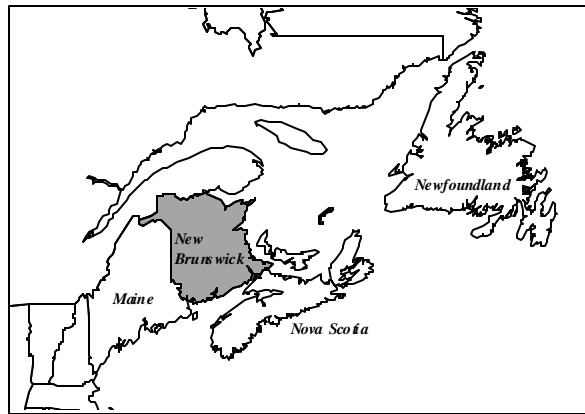
Changes in Piping Plover distribution are likely related to varying habitat availability at some sites. Some sites have become unsuitable because of succession or erosion (i.e., Grand Passage, where habitat has increased on the northern end and Tern Island where habitat has

eroded) while other sites have become more suitable due to winter storms and subsequent removal of vegetation. Predation of eggs and chicks continues to be a major problem, however the influence of predation on affecting distribution is difficult to establish. Human disturbance and vehicles on beaches are still a

major cause of unsuccessful nesting attempts at a number of sites from Miscou to Green Point.

Conservation efforts directed towards Piping Plovers have likely influenced population increases at some sites (i.e., Bouctouche Bar and sites in the Acadian Peninsula).

2001 International Piping Plover Breeding Census - New Brunswick -



The 2001 International Piping Plover Breeding Census in New Brunswick

COUNTY/ REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Albert	Waterside Beach	66	6/06	0	0	2.7	I A 1		Yes	Yes	s(p)
Gloucester	Baie-de-Petit-Pokemouche	19	6/07	2	4	3.0	I A 1,10,12	I A 1	Yes	Yes	p
Gloucester	Beresford Beach	1	6/06	0	0	2.5	I,II A,B,D 1,4,6,12,13		No	Yes	s(p)/m/p
Gloucester	Cap Bateau	15	6/07	0	0	0.1	I A 1		No	Yes	n.r.
Gloucester	Carron Point	2	6/06	0	0	1.0	Not specified		Yes	Yes	s(p)
Gloucester	Chiasson Office	17	6/07	0	0	3.0	I A 1		No	Yes	f
Gloucester	Dune de Maisonette/Pointe de Maisonette	3	6/11	0	0	6.0	I A 1		Yes	Yes	n.r.
Gloucester	Ecole-La-Vague	18	6/07	1	2	2.0	I A 1,10,12	I A 1	No	Yes	p
Gloucester	Grand Lac (Lameque)	16	6/07	0	0	4.0	I A 1		No	No	s(p)
Gloucester	Grand Passage	20	6/07	4	8	3.0	I A 1,8,10,12	I A 1	Yes	Yes	m
Gloucester	Grande Plaine/Lac Frye	8	6/15	1	4	8.0	I A 1,10	I A 1,10	Yes	Yes	n.r.
Gloucester	Green Point (Pointe Verte)	23	6/12	5	10	12.0	I,II A 1,8,10,12	I A 1,12	Yes	Yes	m
Gloucester	Ile Pokesudie	4	6/20	0	0	1.0	I E 1		No	No	n.r.
Gloucester	Mark's Point (Miscou Island)	5	6/15	0	0	1.0	I A 1,4,10		Yes	Yes	n.r.
Gloucester	Middle Miscou Beach	11	n.r.	1	2	4.0	I,II A 1,4,8,10	Not specified	Yes	Yes	n.r.
Gloucester	Miscou Beach	9	6/15	0	0	4.0	I A 1,10,12		Yes	Yes	p
Gloucester	Miscou Centre Beach	6	6/15	0	0	3.0	I A 1,10		Yes	Yes	n.r.
Gloucester	Pigeon Hill Beach	14	6/07	0	0	2.0	I A,D 1,10,12		Yes	Yes	f
Gloucester	Pigeon Hill Sandspit (Fox Den)	13	6/16	1	2	5.0	I B 1,8,10,12	I B 1	Yes	No	s(p)
Gloucester	Plover Ground North	21	6/07	0	1	7.0	I,II A,D 1,10,12	I A 1	Yes	Yes	n.r.
Gloucester	Plover Ground South	22	6/09	1	2	1.0	I A 1,10	I A 1	Yes	Yes	p
Gloucester	Pointe-a-Bouleau	25	6/09	4	8	6.0	I B,C 1,10,12	I B 1,10	Yes	Yes	f/p
Gloucester	Ruisseau Cheniere (Miscou Island)	7	6/15	1	2	8.0	I A 1,10	I A 1	Yes	Yes	n.r.
Gloucester	Tracadie Sandspit (dune)	24	6/13	11	22	12.0	I,II B 1,4,8,10,12	I B 1,10,12	Yes	Yes	p
Gloucester	Val Comeau	26	6/09	1	2	3.0	I A 1,10	I A 1	Yes	Yes	s(p)
Gloucester	Wilson Point North (Miscou)	10	6/15	2	4	4.0	I A 1,10	I A 1	Yes	Yes	n.r.
Gloucester	Wilson Point South (Miscou)	12	6/15	0	0	4.0	I A,D 1,10		Yes	Yes	n.r.
Kent	Bar de Cocagne	54	6/11	0	0	1.2	I,III A,B 2		Yes	Yes	p
Kent	Chockpish Centre	49	6/06	0	0	2.0	I,III A 1		No	No	p
Kent	Chockpish Nord	48	6/05	1	2	1.0	I,III A 1	I A 1	No	No	p
Kent	Cocagne Island	55	6/13	0	0	12.0	I,III E 1,10,11		No	No	p
Kent	Cote-Sainte-Anne	51	6/07	0	0	5.2	I,III A 1		No	No	p

The 2001 International Piping Plover Breeding Census in New Brunswick (Continued)

COUNTY/ REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Kent	Dune de Bouctouche	53	6/13	6	11	12.5	I,III A 2	I,III A 2	Yes	Yes	p
Kent	Escuminac Beaches	39	6/12	1	2	11.5	I,III A 1	III A 1	No	Yes	p
Kent	North Kouchibouguac Dune	43	6/15	4	6	5.0	I D 6,10,11,12	Not specified	Yes	Yes	f
Kent	North Richibucto Dune	45	6/14	0	0	7.4	I B 10,12		Yes	Yes	f
Kent	Pointe Grande-Digue	56	6/11	0	0	1.4	II,III A 2		Yes	Yes	p
Kent	Pointe Sapin Beach	40	6/12	0	0	3.0	I,III A 1		No	Yes	p
Kent	Pointe-Sapin Dune	41	6/16	1	2	2.0	I A 1,6,10	Not specified	Yes	Yes	f
Kent	Portage-River Dune	42	6/15	4	8	2.7	I A,D 1,6,10	Not specified	Yes	Yes	f
Kent	Quai de St. Edouard	52	6/07	0	0	2.5	I,III A 1		No	No	p
Kent	South Chockpish Beach	50	6/06	0	0	0.9	I,III A 1		No	No	p
Kent	South Kouchibouguac Dune	44	6/08	2	3	7.0	I D 6,10,12	Not specified	Yes	Yes	f
Kent	South Richibucto Beach	47	6/07	0	0	7.6	I,III A 1,2		Yes	Yes	p
Kent	South Richibucto Dune (Barrier Island)	46	6/12	1	2	1.5	I B 10,12	Not specified	Yes	Yes	s(p)
Northumberland	Blacklands Sandspit (Crab Island, Swinging Point, Neguac North)	31	6/10	4	8	4.0	I,II B 1,4,8,10	I B 1,4,10	No	Yes	s(p)
Northumberland	Cedar Road Beach South	28	6/08	1	2	8.0	I,II A,D 1,4,8,10,12	I A 1,10	Yes	Yes	p
Northumberland	Cedar Road Spit	29	6/11	4	8	5.0	I,II B 1,4,8,10,12	I B 1,4,10,12	Yes	Yes	p
Northumberland	Egg Island	35	6/07	0	0	1.0	II B,D 1,2,4		Yes	No	n.r.
Northumberland	Fox Island	34	6/07	0	0	26.0	II B 1,2		Yes	Yes	m
Northumberland	Huckleberry Island	37	6/07	0	0	2.3	II B 1		Yes	Yes	m
Northumberland	Neguac Dune (Neguac Beach)	32	6/14	6	12	10.0	I B 1,2,4,8,10,12	I B 1,2,10,12	Yes	Yes	s(p)/p
Northumberland	Pointe-A-Barreau	27	6/08	1	2	3.0	I A 1,8,10,12	I A 1	Yes	Yes	p
Northumberland	Portage Island National Wildlife Area	33	6/07	3	7	19.0	II D,E 1,2,6	II E 1,6	Yes	Yes	f
Northumberland	Preston Beach	38	6/12	0	0	2.3	II,III A 1,2		Yes	Yes	m
Northumberland	Sheldrake Island	36	6/07	0	0	1.5	II E 1,2,6		Yes	Yes	m
Northumberland	Tabusintac Dune	30	6/09	8	17	10.0	I,II B,D 1,2,4,8,10,12	I B 1,2,10,12	Yes	Yes	p
Westmorland	Cadman Beach	64	6/08	0	0	1.5	I,III A 2		Yes	Yes	p
Westmorland	Cap Bimet West	59	6/09	0	0	1.2	III A 2		Yes	Yes	p
Westmorland	Cap Brule East	58	6/09	0	0	0.8	III A 2		Yes	Yes	p
Westmorland	Cape Jourimain National Wildlife Area	65	6/08	1	2	1.5	I,II,III A 1,12	III A 12	No	No	f
Westmorland	Johnston Point	63	6/08	0	0	1.6	I,III A 2		Yes	Yes	p

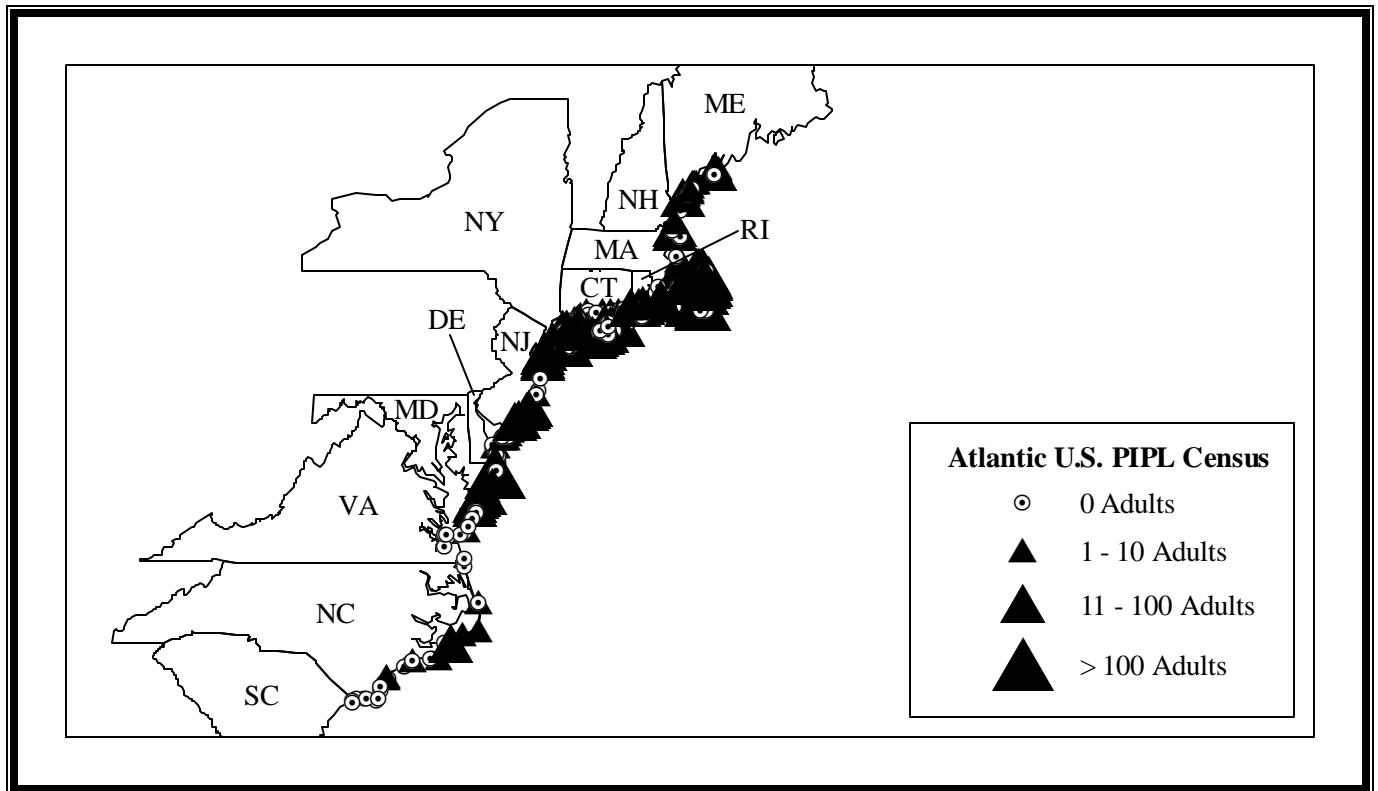
The 2001 International Piping Plover Breeding Census in New Brunswick (Continued)

COUNTY/ REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Westmorland	Landry East	61	6/09	0	0	0.5	III A 1		Yes	Yes	p
Westmorland	Little Cape	62	6/09	0	0	1.8	I,III A 2,12		Yes	Yes	p
Westmorland	Petit Barachois	60	6/09	0	0	0.8	I,III A 2		Yes	Yes	p
Westmorland	Shediac Island	57	6/12	0	0	2.0	II E 1,6		No	No	m/p
Total				79	167	302.5					

n.r. = not reported

The 2001 International Piping Plover Breeding Census

U.S. Atlantic Overview



International census results for the U.S. Atlantic breeding population are generally consistent with estimates from more intensive annual surveys of breeding pairs and productivity (USFWS 1996, USFWS 1997-2000, 2002). While overall population increases between 1996 and 2001 were more modest than those seen between the previous two international censuses, they were generally more evenly distributed. It should be noted, however, that the five-year U.S. coastwide trend masks substantial regional population dips that occurred in the intervening years and a very steep continuing decline at the southern end of the range.

The population in the New England recovery unit (Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut) has attained the minimum subpopulation target established in the revised Atlantic Coast Recovery Plan (USFWS 1996). Two-thirds of the 1996-2001

population increase occurred in the first two years. In 1997, breeding Piping Plovers were observed in New Hampshire after a 13 year hiatus and have been nesting there consistently since. Plovers have also established breeding activity at new sites in Massachusetts and Rhode Island. High quality habitat remains abundant in New England, and very intensive management of both motorized and nonmotorized recreational beach use is ongoing. Use of predator exclosures continues to produce significantly higher hatching rates than those observed at unexclosed nests. Local episodes of harassment and depredation at predator exclosures, elevated rates of nest abandonment, and incidents of adult mortalities associated with exclosed nests are causing managers to increase caution about when and where exclosures are deployed.

The five-year net gain in the New York-New Jersey recovery unit is very encouraging, but it

obscures an 11% decline that occurred between 1996 and 1998. Most of that decrease occurred in New Jersey following many years of marginal productivity, a 1996 oil spill that affected more than 50 piping plovers, and extremely poor productivity in 1997. Historical, on-going, and proposed development and widespread associated efforts to protect developments with artificially stabilized beaches forestall formation of optimal chick rearing habitats. Efforts to manage and minimize adverse effects from pervasive beach recreation are increasing. Deployment of and benefits from predator exclosures are constrained by the same difficulties experienced in New England.

The small Southern recovery unit population, comprised of breeding Piping Plovers in Delaware, Maryland, Virginia, and North Carolina, remains very precarious. The recovery unit population total increased slightly in 1997 and 1998, then dipped below 1996 numbers in 1999 and 2000, before increasing again in 2001. The most recent increase is almost entirely attributable to strong productivity and population growth on three northern Virginia barrier islands. By contrast, numbers in the southern half of the Virginia barrier island chain and North Carolina have experienced a very steep decline, from 75 pairs in 1995 to only 25 pairs in 2001. Piping plovers have much more stringent breeding habitat requirements in the southern part of their Atlantic Coast range than in New England, and availability of their preferred overwash and ephemeral pool chick-rearing habitats is limited by efforts to artificially stabilize beaches and

natural succession. However, the current population appears to be below the capacity of available habitat, and efforts to minimize immediate threats to productivity from predation and recreational disturbance are urgently needed. Examples of high productivity and rapid population response in the Southern recovery unit, including Maryland (increase from 19 to 61 pairs between 1993 and 1996) and three northern Virginia barrier islands (1998-2001 increase from 71 to 98 pairs), are encouraging indicators that substantial progress is possible.

References Cited:

U.S. Fish and Wildlife Service. 1996. Piping plover (*Charadrius melodus*), Atlantic Coast population, revised recovery plan. Hadley, Massachusetts. 258 pp.

U.S. Fish and Wildlife Service. 1997-2000, 2002. Annual status updates, 1996-2001 U.S. Atlantic Coast Piping Plover population. Sudbury, Massachusetts.

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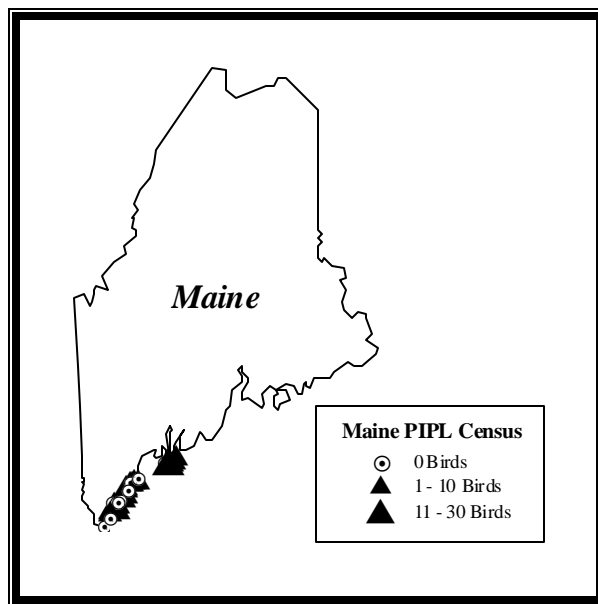
The 2001 International Piping Plover Breeding Census in Maine

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At least 99% of the known suitable habitat was censused during the 2001 International Piping Plover Breeding Census. The only habitats that we did not adequately cover were sand beaches on near-shore islands. This habitat constitutes less than 1% of total potential habitat. Although we have had scattered reports of plovers showing up at one of these islands, we have yet to document plover presence let alone verify a nesting attempt. It would be interesting to include a few of these islands in the future.

Short Sands Beach (in York) was eliminated from our survey this year due to lack of suitable habitat. The beach has been surveyed each year for the last 5 years without any sign of plover activity; it lacks an active dune system, and exists only in front of a seawall. It is also extremely narrow with a high level of recreational activity.

Historically, we have attempted to complete the plover census in one day, using staff and trained volunteers. This year, numbers for the one-day count (38 pairs) differed greatly from what was calculated at the end of the season (55 pairs). Therefore, we adjusted our numbers to 48 pairs



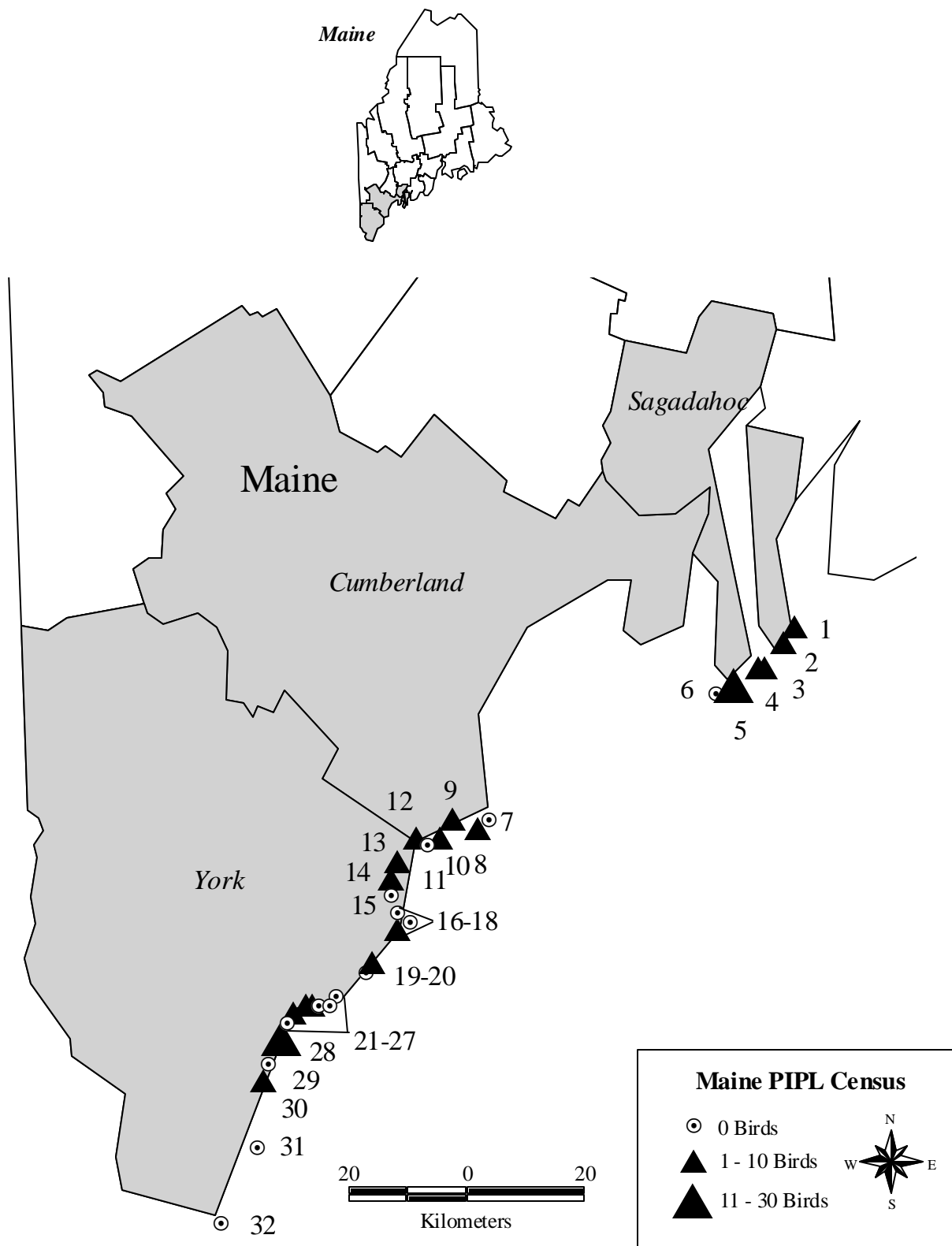
which includes all observations during the census week plus two pairs observed just outside of the census window on May 6th and 8th that we believe were present but uncounted during the window.

It is possible that a later census window (5-7 days) would narrow the discrepancy between the window count and the final season count. Compared to 1996 census data, we are down slightly from 52 pairs in 1996 to 48 pairs in 2001.

Our year-end adjusted count for Maine in 2001 was 55 pairs. The year-end adjusted count for 1996 was an all-time-high of 60 pairs, which we have not achieved since then.

Degraded and/or loss of habitat are the most important limiting factors affecting Piping Plovers in Maine. Additionally, predation by foxes, crows and other avian predators is detrimental to plover populations in the state. Unleashed dogs have caused a lot of disturbance leading to nest failure and abandonment as well.

2001 International Piping Plover Breeding Census - Maine -



The 2001 International Piping Plover Breeding Census in Maine

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Cumberland	Crescent Beach State Park	7	5/31	0	0	1.3	I A 1,6		No	No	s(p)
Cumberland	Higgins Beach	9	5/31	4	7	1.0	I,V A 1,2,8,12	I,V A 2,8,12	No	Yes	s(p)/p
Cumberland	Pine Point	12	5/31	1	2	2.2	I A 1	I A 1	Yes	Yes	p
Cumberland	Ram Island	8	5/31	2	4	2.3	I A,E 1,4,6,12	I A 1	No	Yes	p
Cumberland	Scarborough Beach	10	5/31	3	6	2.3	I A 1	I A 1	No	Yes	s(p)
Cumberland	Western Beach	11	5/31	0	0	1.9	I A 1		No	Yes	s(p)
Sagadahoc	Head Beach, Hermit Island	6	5/31	0	0	0.6	I A 1		No	No	p
Sagadahoc	Hunnewell Beach	3	5/31	1	2	1.8	I A 1	I A 1	Yes	Yes	p
Sagadahoc	Indian Point/Little River	2	5/31	1	2	0.2	V E 1,8,12	V E 12	No	No	p
Sagadahoc	Popham Beach State Park	4	5/31	1	2	1.8	I,V A 1,2	I A 1	Yes	Yes	s(p)
Sagadahoc	Reid State Park	1	5/31	1	2	1.6	I,V E 1,2,8,12	I E 1,2,8,12	Yes	Yes	s(p)
Sagadahoc	Seawall Beach	5	5/31	8	17	2.4	I A,V 1,2,4,8	I A 1	Yes	Yes	p
York	Colony Beach	21	5/31	0	0	0.2	I A 1,11		No	No	m/p
York	Crescent Surf Beach	25	5/31	4	8	1.0	I A 1	I A 1	Yes	Yes	f/p
York	Drakes Island	27	5/31	0	0	1.4	I B 1,12,13		No	Yes	p
York	Ferry Beach	15	5/31	0	0	3.2	I A 1,10		No	Yes	s(p)/p
York	Fortunes Rock Beach	18	5/31	3	6	3.2	I A 1	I A 1	No	Yes	p
York	Gooch's Beach	22	5/31	0	0	0.3	I A 1		No	Yes	n.r.
York	Goose Rocks Beach	19	5/31	3	6	2.9	I,II A 1,12	I A 12	Yes	Yes	m/p
York	Goosefare Brook	14	5/31	1	2	0.3	I,II,III,V A 1,2,8	Not specified	No	Yes	f
York	Hattie's Beach	17	5/31	0	0	0.2	I A 8		No	No	n.r.
York	Hills Beach	16	5/31	0	0	1.4	I A 1,8,12		No	No	n.r.
York	Kennebunk Beach	23	5/31	0	0	0.3	I A 1		No	Yes	n.r.
York	Laudholm	26	5/31	4	8	1.2	I,II,V A 1,12	I,II A 1,12	Yes	Yes	s(p)
York	Marshall Point/Batson River	20	5/31	0	0	0.6	I,III,V A 1,8,10		No	Yes	f
York	Moody Beach	29	5/31	0	0	1.9	I A 1		No	Yes	p
York	Ogunquit	30	5/31	3	6	2.3	I A 1,12	I A 1,12	No	Yes	m
York	Old Orchard Beach	13	5/31	1	2	3.3	I A 1	Not specified	No	Yes	m
York	Parsons Beach	24	5/31	1	2	1.2	I A 1	Not specified	No	Yes	p
York	Seapoint and Crescent Beaches	32	5/31	0	0	1.5	I A 1,6,12		No	Yes	m/p
York	Short Sands Beach	31	5/31	0	0	0.5	I A 1		No	Unk	m
York	Wells Beach	28	5/31	6	12	1.9	I,II A 1,12,13,14	I A 1,12,14	No	Yes	n.r.
Total				48	96	48.2					

unk = unknown

n.r. = not reported

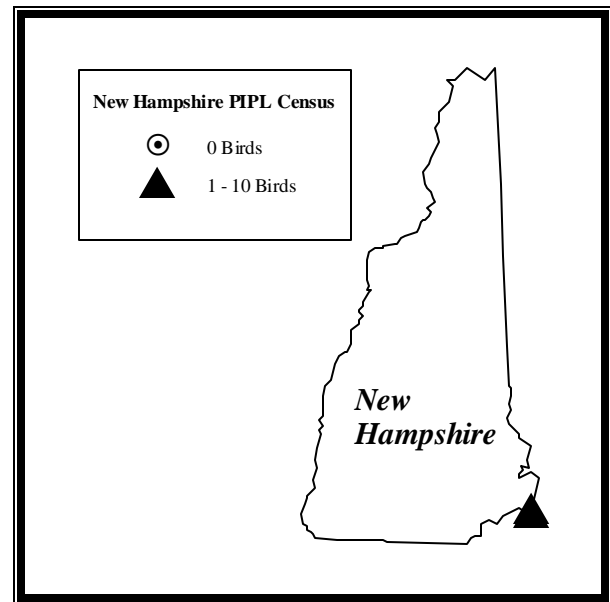
The 2001 International Piping Plover Breeding Census in New Hampshire

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All known suitable habitat was censused during the 2001 International Piping Plover Breeding Census in New Hampshire.

During the 1996 International Census, there were no known nesting Piping Plovers in the state.

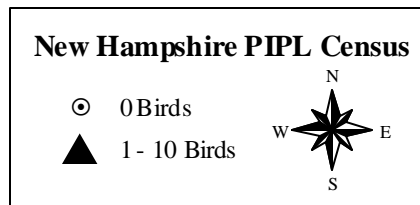
I believe these results reflect the true population in New Hampshire. There is only a small amount of coastline and suitable habitat



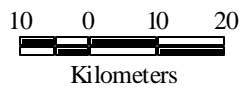
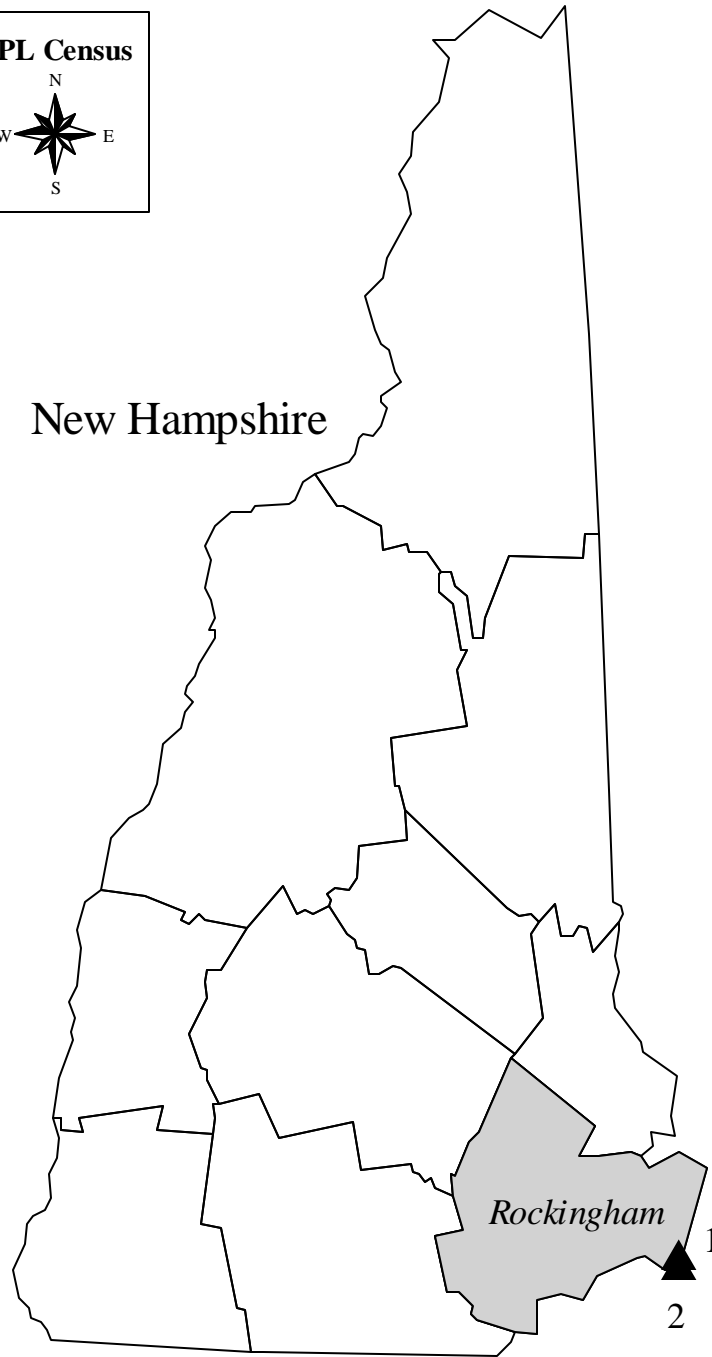
thus, the existing population is monitored very intensively.

The biggest factor impacting Piping Plovers in New Hampshire is heavy recreational beach use. Positive affects to plover numbers have resulted from protection through symbolic fencing, exclosures, and outreach to beach users.

2001 International Piping Plover Breeding Census - New Hampshire -



New Hampshire



The 2001 International Piping Plover Breeding Census in New Hampshire

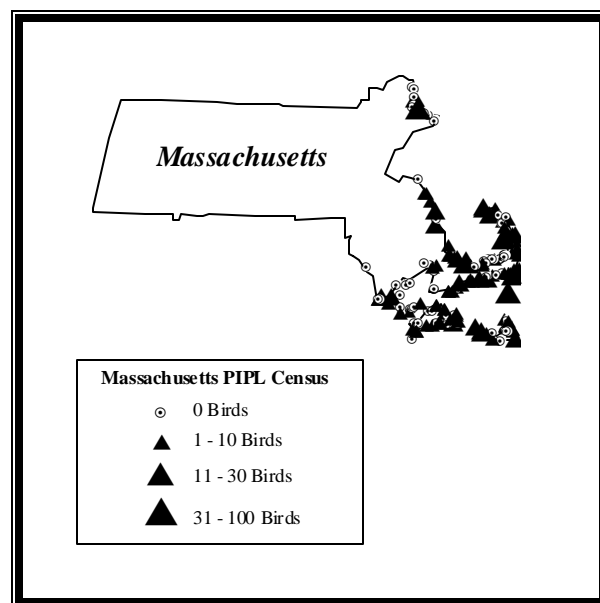
COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Rockingham	Hampton Beach State Park	1	5/30	2	4	0.3	I A 1,12	I A 1	No	No	s(p)
Rockingham	Seabrook Beach	2	5/30	5	10	1.6	I A 1,12	I A 1,12	No	No	m
Total				7	14	1.9					

The 2001 International Piping Plover Breeding Census in Massachusetts

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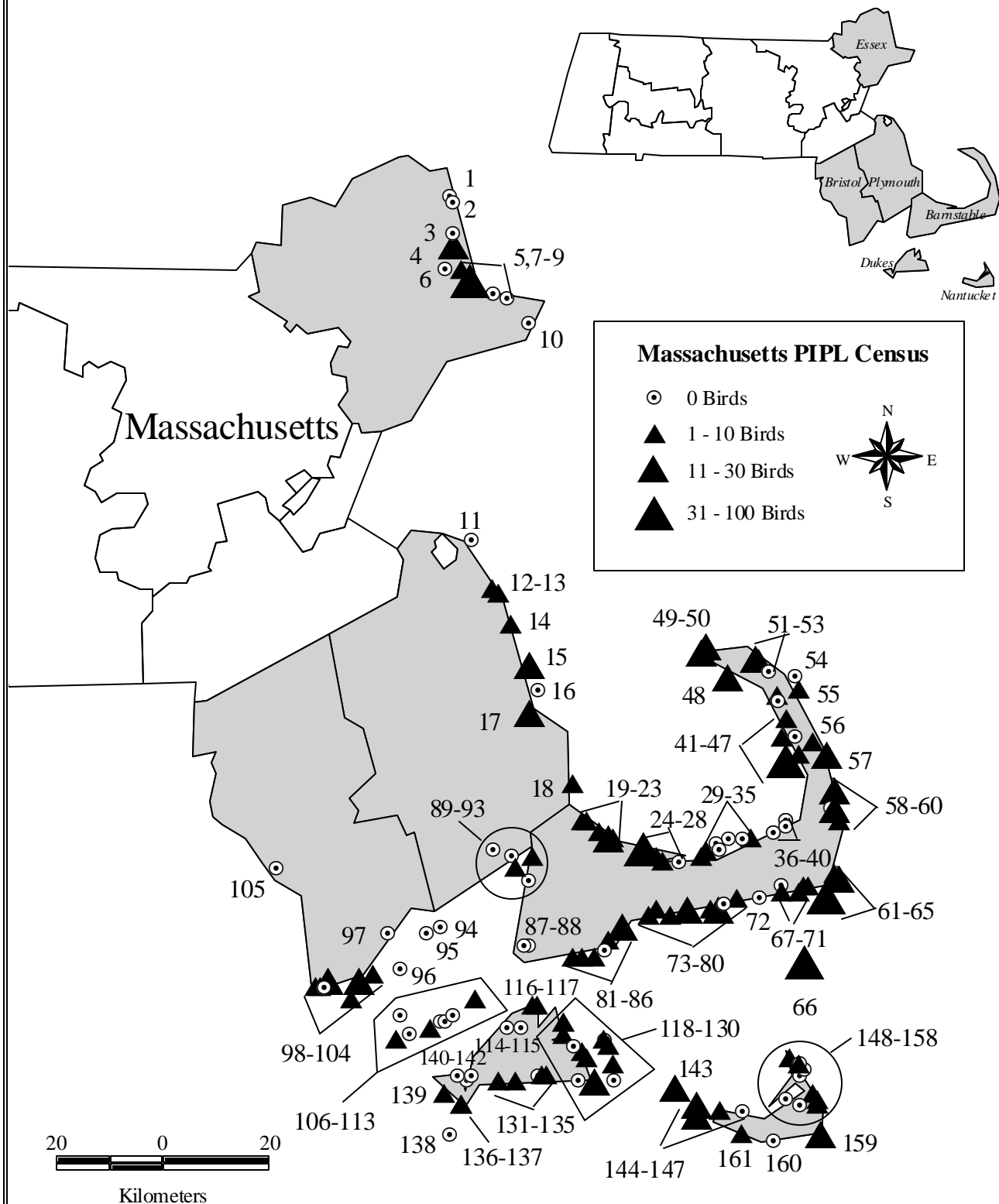
All known Piping Plover nesting sites (n=103) were censused in 2001, as well as 58 other marginal sites that did not support nesting plovers.

The 2001 total of 481 pairs represents a 10% increase over the 1996 count of 437 pairs. We believe these counts slightly underestimate actual breeding population, based on the assumption that during the nine-day count period a very small number of birds were



missed, a few early-breeding birds had already left the state, and a few late-breeding birds had not yet arrived or at least not established breeding territories. However, we believe that annual censuses made during this nine-day window provide our most precise estimate of population trends, because the potential for double-counting pairs is minimized.

2001 International Piping Plover Breeding Census - Massachusetts -



The 2001 International Piping Plover Breeding Census in Massachusetts

COUNTY	SITE NAME	MAP#	BR PAIRS	TOTAL ADULTS	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Barnstable	Ballston Beach/Newcomb Hollow	55	4	8	I A 1,4,10,11,12	I A 1,4,10,11,12	Yes	Yes	f
Barnstable	Bass River Beach	74	0	0	II A 1		No	No	p
Barnstable	Bassetts Island	90	0	0	Not specified		No	No	n.r.
Barnstable	Black Beach/Sippewisset	88	0	0	II B 1,2,10		Yes	Yes	m
Barnstable	Bone Hill Road	28	0	0	II A 1,10		No	No	n.r.
Barnstable	Bound Brook	45	1	2	II A 6,11	II A 6	No	No	f
Barnstable	Chapin Beach	30	1	2	II,III F 1,2,8	Not specified	Yes	Yes	m
Barnstable	Coast Guard Beach	58	13	26	I A 1	I A 1	Yes	Yes	f
Barnstable	Cockle Cove Beach	69	1	2	II,III F 1,2,10	II,III F 1,2,10	No	Yes	m
Barnstable	Corporation Beach	33	0	0	II A 1,8		No	Yes	m
Barnstable	Crosby's Landing Beach	40	0	0	Not specified		No	No	n.r.
Barnstable	Dowse's Beach	79	1	2	II D 1	II D 1	No	Yes	n.r.
Barnstable	Duck Harbor	44	1	2	Not specified	Not specified	No	No	n.r.
Barnstable	East Sandwich Beach	23	1	2	II A 1,13	II A 1,13	Yes	Yes	m/p
Barnstable	Ellis Launching Beach	38	0	0	Not specified		No	Yes	n.r.
Barnstable	Forest Beach	68	1	2	II,III F 1,8,10	II,III F 1,8,10	No	Yes	m
Barnstable	Gray's Beach	29	2	4	II,III B 1,10	II,III B 1,10	Yes	Yes	m
Barnstable	Great Island, Yarmouth	25	4	8	II D,F 1,2,8,10	II D,F 1,2,8,10	Yes	Yes	p
Barnstable	Harding Beach	67	4	8	II F 1,2,8,10	II F 1,2,8,10	Yes	Yes	m
Barnstable	High Head/Head of the Meadow/Highland Beach	52	3	6	I A 1,4,10,12	I A 1	Yes	Yes	f
Barnstable	Howes St. Beach	32	0	0	II A 1,6,10		No	No	p
Barnstable	Indian Neck	43	0	0	Not specified		No	Yes	n.r.
Barnstable	Jeremy Point/Great Island	41	17	34	III A 1,2,12	III A 1,2,12	Yes	Yes	f
Barnstable	Kalmus Park	77	6	12	II C 1,8,10,11	II C 1,8,10,11	Yes	Yes	m
Barnstable	Lieutenant's Island	42	1	2	Not specified	Not specified	No	No	n.r.
Barnstable	Linell Landing Beach	39	0	0	Not specified		No	No	n.r.
Barnstable	Long Beach	80	4	8	II,III D 1,10,11	II,III D 1,10,11	Yes	Yes	m/p
Barnstable	Long Point/Wood End	48	8	16	I,II B 1,6,8,10,12	I,II B 1,6,8,10	Yes	Yes	f
Barnstable	Longnook Beach	54	0	0	Not specified		No	Yes	n.r.
Barnstable	Marconi Beach/LeCount Hollow	57	7	14	I A 1	I A 1	Yes	Yes	f
Barnstable	Mashnee Dike	89	2	4	II F 1,10,12	II F 1,10,12	No	No	f
Barnstable	Mayflower Beach	31	0	0	Not specified		No	Yes	m

The 2001 International Piping Plover Breeding Census in Massachusetts (Continued)

COUNTY	SITE NAME	MAP#	BR PAIRS	TOTAL ADULTS	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Barnstable	Merkel Beach/Wychmere	70	2	4	II A 1,10	II A 1,10	No	No	p
Barnstable	Nauset Beach, Chatham	63	11	22	I B 1,2,4,12	I B 1,2,4,12	No	Yes	m
Barnstable	Nauset Beach, Orleans	61	5	10	I A 1,10,12	I A 1,10,12	No	Yes	n.r.
Barnstable	Nauset Spit (Heights), Orleans	60	14	28	II A 1,2,8,10	II A 1,2,8,10	Yes	Yes	f/m
Barnstable	New Island	59	0	0	Not specified		Yes	Yes	m
Barnstable	New Seabury	84	3	6	Not specified	Not specified	No	Yes	n.r.
Barnstable	North Monomoy Island	65	2	4	I B 1,10,12	I B 12	Yes	Yes	f
Barnstable	Paine's Creek	6	0	0	II A 1		No	No	m
Barnstable	Pamet Harbor, North	47	2	4	II,III A,F 1,8,10,11	II,III A,F 1,8,10,11	Yes	Yes	m
Barnstable	Pamet Harbor, South	46	0	0	II A 1,4,8,10,12		No	No	m
Barnstable	Pilgrim Beach/Beach Point	51	7	14	II A 1,8,10	II A 1,8,10	Yes	Yes	p
Barnstable	Pond Village Beach	53	0	0	II,VII A 1,10		No	No	p
Barnstable	Popponesset Spit	82	3	6	II D 1,2,8,10	II D 2,8,10	Yes	Yes	m/p
Barnstable	Quivett Neck/Coles Pond	35	1	2	II,III A,D,F 1,2,8,10,12	Not specified	No	Yes	m
Barnstable	Race Point/ South Beach, Provincetown	49	13	26	I A 1,4,10,12	I A 1,10	Yes	Yes	f
Barnstable	Race Point/North Beach	50	7	14	I,II A 1,8,10,11,12	I,II A 1,10,11	Yes	Yes	f
Barnstable	Red River Beach	72	0	0	Not specified		No	No	n.r.
Barnstable	Robbins Hill Beach	37	0	0	Not specified		No	Yes	n.r.
Barnstable	Rock Landing	83	0	0	II A 1,10		No	No	p
Barnstable	Sagamore Beach	19	3	6	I A 1,10	I A 1,10	No	Yes	p
Barnstable	Sampson Island	81	11	22	II,III B 1,2,8,10	II,III B 1,2,8,10	Yes	Yes	p
Barnstable	Sandy Neck	24	23	46	II A 1,10,12	II A 1,10,12	Yes	Yes	m
Barnstable	Scorton (Neck) Creek	26	3	6	II,III D 1,2,4,6,8,10	II,III D 1,2,4,6,8,10	Yes	Yes	n.r.
Barnstable	Scorton Shores	27	3	6	II A 1,6	II A 1,6	No	No	p
Barnstable	Scusset Beach State Park	20	2	4	I A 1,4,10	I A 1,4,10	No	Yes	s(p)
Barnstable	Seagull Beach	76	2	4	II,III D 1,10,12	II,III D 1,10,12	Yes	Yes	m
Barnstable	Sesuit Beach	34	0	0	II A 1		No	Yes	m
Barnstable	South Beach	64	31	62	I,II D 1,2,4,6,8,9,10,11,12,13	I,II D 1,2,4,6,8,9,10,11,12,13	Yes	Yes	m
Barnstable	South Cape Beach	86	5	10	I,II A 1,2,4,6,12	I,II A 1,2,4,6,12	Yes	Yes	m
Barnstable	South Momomoy Island	66	26	52	I,II B 1,10,12	I,II B 1,10,12	Yes	Yes	f
Barnstable	Springhill Beach	22	11	22	II A,D,F 1,2,6,8,10,13	II A,D,F 1,2,6,8,10,13	Yes	Yes	m/p
Barnstable	Squaw Island	78	3	6	II,III D 1,8,10	III D 1,8,10	No	Yes	p

The 2001 International Piping Plover Breeding Census in Massachusetts (Continued)

COUNTY	SITE NAME	MAP#	BR PAIRS	TOTAL ADULTS	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Barnstable	Sunken Meadow Spit	56	2	4	Not specified	Not specified	No	No	n.r.
Barnstable	Tern Island	62	2	4	II C 1,2,10	II C 1,2,10	Yes	Yes	m
Barnstable	Town Beach	71	0	0	Not specified		No	Yes	n.r.
Barnstable	Town Neck Beach	21	2	4	II,III A,D 2,6,8,10,12	III A,D 2,6,8,10	Yes	Yes	m
Barnstable	Washburn Island	85	5	10	I,II B 1,6,8,12	I,II B 1,6,8,12	Yes	Yes	s(p)
Barnstable	West Dennis Beach	73	3	6	III F 1,8,10	III F 1,8,10	Yes	Yes	m
Barnstable	Wings Island	36	0	0	II,III A,D 1,8,10		No	No	p
Barnstable	Woodneck Beach	87	0	0	II A,F 1,2,8		No	Yes	p
Bristol	Acoaxet	102	0	0	Not specified		Yes	Yes	m
Bristol	Bay Point	105	0	0	Not specified		Yes	Yes	m
Bristol	Cockeast Pond	103	1	2	I,III A 1,12,14	III A 1,12,14	Yes	Yes	p
Bristol	Demarest Lloyd State Park	98	2	4	I A,D 1,2,8,14	I A,D 1,2,8,14	No	Yes	s(p)
Bristol	Gooseberry Neck	100	1	2	I B,D 1,6,10	I B,D 1,6,10	Yes	Yes	s(p)
Bristol	Horseneck Beach	101	13	26	I A 1,12,14	I A 1,12,14	Yes	Yes	s(p)/m
Bristol	Little Beach/Barney's Joy	99	10	20	I,III A 1,2,8,10,11,12,14	I,III A 1,2,8,10,11,12,14	Yes	No	p
Bristol	Richmond Pond	104	1	2	I,VII A 1,12,14	VII A 1,12,14	Yes	Yes	p
Bristol	Round Hill	96	0	0	I A 1		Yes	Yes	m
Bristol	Salters Pond	97	0	0	Not specified		Yes	Yes	n.r.
Bristol	Stony Point Dike	91	2	4	Not specified	Not specified	No	Yes	m
Bristol	West Island	94	0	0	I A,B 1,8,10		Yes	Yes	s(p)
Bristol	Winsegansett Heights	95	0	0	Not specified		No	Yes	n.r.
Dukes	Arruda's Point/The Jetties	123	1	2	Not specified	Not specified	No	Yes	n.r.
Dukes	Canapitsit, Nashawena Island	107	0	0	Not specified		Yes	Yes	n.r.
Dukes	Cape Pogue Elbow/The Narrows	124	2	4	Not specified	Not specified	No	Yes	n.r.
Dukes	Cedar Tree Neck/Lambert's Cove	114	0	0	I,III A 1,2,10,12		No	Yes	m/p
Dukes	Chappaquiddick Beach	125	0	0	I A 1,12		No	Yes	n.r.
Dukes	Chilmark Pond	135	1	2	I,III A,F 1,10,12	I,III A,F 1,12	No	Yes	m/p
Dukes	Cobbly, Pasque Island	111	0	0	I,II E 1,6,12		Yes	Yes	m
Dukes	Cow Bay	121	0	0	Not specified		No	Yes	m
Dukes	Cuttyhunk Island	106	1	2	Not specified	Not specified	Yes	Yes	m
Dukes	Dogfish Bar	75	6	12	I,III A,F 1,12	I,III A,F 1,12	Yes	Yes	s(p)/p
Dukes	Eastville Beach	119	1	2	III A 1,11,12	III A 1,11,12	No	No	m

The 2001 International Piping Plover Breeding Census in Massachusetts (Continued)

COUNTY	SITE NAME	MAP#	BR PAIRS	TOTAL ADULTS	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Dukes	Edgartown Great Pond/Job's Neck	131	4	8	I,III A,F 1,2,4,8,10,12	I,III A,F 1,2,4,8,12	Yes	Yes	p
Dukes	Eel Pond/Little Beach/Lighthouse Beach	122	2	4	I,III A,D,F 1,2,8,10	I,III A,D,F 1,2,8	Yes	Yes	m/p
Dukes	Great Rock Bight Preserve	141	0	0	Not specified		No	No	n.r.
Dukes	Harthaven Beach	118	1	2	I A 1,12	I A 1,12	Yes	Yes	p
Dukes	Leland/East Beaches	127	2	4	Not specified	Not specified	No	Yes	n.r.
Dukes	Little Neck	126	1	2	Not specified	Not specified	Yes	No	m
Dukes	Lobsterville Beach	140	0	0	Not specified		No	Yes	m
Dukes	Long Beach/Squibnocket	137	4	8	I,III A 1,10,12	I,III A 1,12	Yes	No	p
Dukes	Lucy Vincent Beach	136	1	2	Not specified	Not specified	No	No	n.r.
Dukes	Menemsha Beach	142	0	0	Not specified		No	No	n.r.
Dukes	Moshup Trail Beach/Philbin Beach	139	1	2	I A 1,12	I A 1,12	No	Yes	m/p
Dukes	Naushon Island	113	1	2	I,II E 1,12	I,II E 1,12	Yes	Yes	m
Dukes	Nomans Land	138	0	0	Not specified		No	No	n.r.
Dukes	Norton Point Beach	129	9	18	I,II A 1,8,10,12	I,II A 1,8,10,12	Yes	Yes	m
Dukes	Oyster and Paqua Ponds	132	1	2	I A,F 1,10,12	I A,F 1,12	No	Yes	p
Dukes	Penikese Island	108	0	0	Not specified		No	No	n.r.
Dukes	Quick's Hole, Nashawena Island	109	3	6	Not specified	Not specified	Yes	Yes	m
Dukes	Quick's Hole, Pasque Island	110	0	0	I,II E 1,6,12		Yes	Yes	m
Dukes	Robinson's Hole, Pasque Island	112	0	0	I,II E 1,6,12		Yes	Yes	m
Dukes	Sepiessa Point Reservation	115	0	0	Not specified		No	No	n.r.
Dukes	South Beach	130	0	0	I A 1,12		No	Yes	m
Dukes	Sylvia State Beach	120	3	6	III A,F 1,10,11,12	III A,F 1,10,11,12	Yes	Yes	s(p)
Dukes	Tashmoo	116	1	2	I,II A 1,8,10,12	I,II A 1,8,12	Yes	Yes	p
Dukes	Tisbury Great Pond/Black Pt. Pond/Quansoo/Long Pt.	134	2	4	I,III A,F 1,2,8,10,12	I,III A,F 1,2,8,12	Yes	Yes	p
Dukes	Wasque	128	0	0	Not specified		Yes	Yes	m
Dukes	Watcha Pond	133	0	0	I A,F 1,10,12		No	Yes	p
Dukes	Wilfred's Point/Mink Meadows Beach	117	3	6	I,III A 1,10,12	I A 1,12	No	Yes	p
Essex	Coffin's Beach	8	0	0	Not specified		No	No	n.r.
Essex	Crane Beach	7	27	54	I B 1,2,12	I B 1,2,12	Yes	Yes	m
Essex	Good Harbor Beach	10	0	0	Not specified		No	Yes	n.r.
Essex	Parker River NWR	4	11	22	I,II B 1,12	I B 1,12	Yes	Yes	f
Essex	Plum Island (North End)/Newburyport/Newbury	3	0	0	Not specified		No	Yes	n.r.

The 2001 International Piping Plover Breeding Census in Massachusetts (Continued)

COUNTY	SITE NAME	MAP#	BR PAIRS	TOTAL ADULTS	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Essex	Salisbury Beach	1	0	0	Not specified		No	No	n.r.
Essex	Salisbury Beach State Reservation	2	0	0	Not specified		Yes	Yes	s(p)
Essex	Sandy Point State Reservation	5	3	6	Not specified	Not specified	Yes	Yes	s(p)
Essex	Wingaersheek Beach	9	0	0	I A 1		No	Yes	p
Nantucket	Coatue	149	0	0	I,III F 1,8,10,12		No	Yes	p
Nantucket	Coskata Inlet/The Haulover	155	0	0	Not specified		Yes	Yes	n.r.
Nantucket	Coskata-East Beach	154	0	0	Not specified		Yes	Yes	n.r.
Nantucket	Coskata-Inner Trail	153	0	0	Not specified		Yes	Yes	n.r.
Nantucket	Coskata-West Beach	152	0	0	Not specified		Yes	Yes	n.r.
Nantucket	Dionis Beach	147	0	0	Not specified		No	No	n.r.
Nantucket	Eel Point	146	3	6	II,III B,D 1,2,4,8,12	III B 1,2,8,12	No	Yes	p
Nantucket	Great Point	150	5	10	I,II B 1,4,6	I,II B 1,4,6	Yes	No	p
Nantucket	Hummock Pond	161	1	2	I,III F 1,10,12	I,III F 1,10,12	No	Yes	p
Nantucket	Low Beach/Tom Nevers	159	6	12	Not specified	Not specified	Yes	Yes	m
Nantucket	Muskeget Island	143	7	14	I E 1,12	I E 1,12	Yes	Yes	m/p
Nantucket	Quaise Point	148	0	0	Not specified		No	Yes	n.r.
Nantucket	Quidnet/Sesachacha Pond	158	1	2	Not specified	Not specified	No	Yes	m
Nantucket	Smith Point	145	8	16	Not specified	Not specified	Yes	Yes	m
Nantucket	Squam Pond	157	1	2	I,III B 1,10,12	Not specified	No	Yes	p
Nantucket	Surfside	160	0	0	Not specified		Yes	No	m
Nantucket	The Galls	151	1	2	Not specified	Not specified	Yes	No	m
Nantucket	Tuckernuck Island	144	7	14	I,II E 1,2,12	I,II E 1,2,12	Yes	Yes	p
Nantucket	Wauwinet	156	1	2	Not specified	Not specified	No	No	n.r.
Plymouth	Duxbury Beach	15	8	16	I,II B 1,6,8,10,12	I,II B 1,6,8,12	Yes	Yes	p
Plymouth	Ellisville	18	2	4	II A 1,2,8	II A 1,2,8	No	Yes	n.r.
Plymouth	Fourth Cliff	13	1	2	II A 1,6	II A 1	Yes	Yes	f
Plymouth	Little Harbor Beach	92	0	0	Not specified		Yes	No	n.r.
Plymouth	Long Beach Point	93	0	0	Not specified		No	No	n.r.
Plymouth	Plymouth Beach	17	14	28	I,II B 1,6,8,10,12	I,II B 1,6,8,10,12	Yes	Yes	m
Plymouth	Rexhame Beach	14	1	2	I A 1	I A 1	No	No	c
Plymouth	Saquish Beach	16	0	0	Not specified		Yes	No	m

The 2001 International Piping Plover Breeding Census in Massachusetts (Continued)

COUNTY	SITE NAME	MAP#	BR PAIRS	TOTAL ADULTS	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Plymouth	Strawberry Point	11	0	0	Not specified		No	No	n.r.
Plymouth	Third Cliff	12	3	6	II,III A 2,8	II,III A 2,8	Yes	Yes	c
Total			481	962					

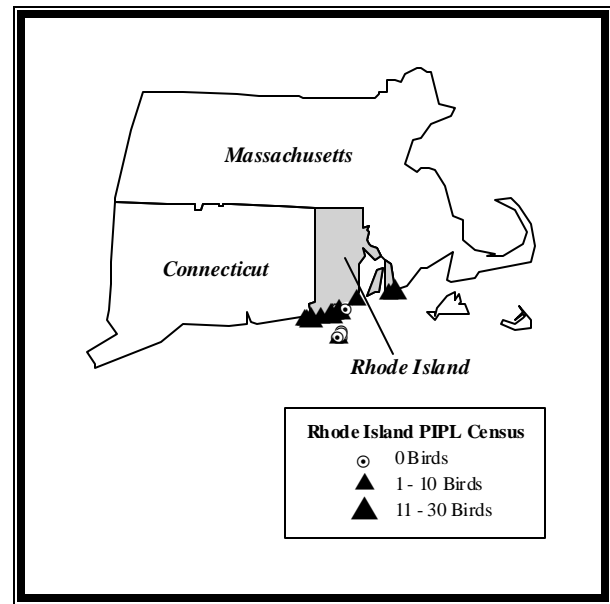
n.r. = not reported

The 2001 International Piping Plover Breeding Census in Rhode Island

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Nineteen sites were surveyed during the 2001 International Piping Plover Census in Rhode Island. Plovers were found on twelve (63%) of the sites surveyed.

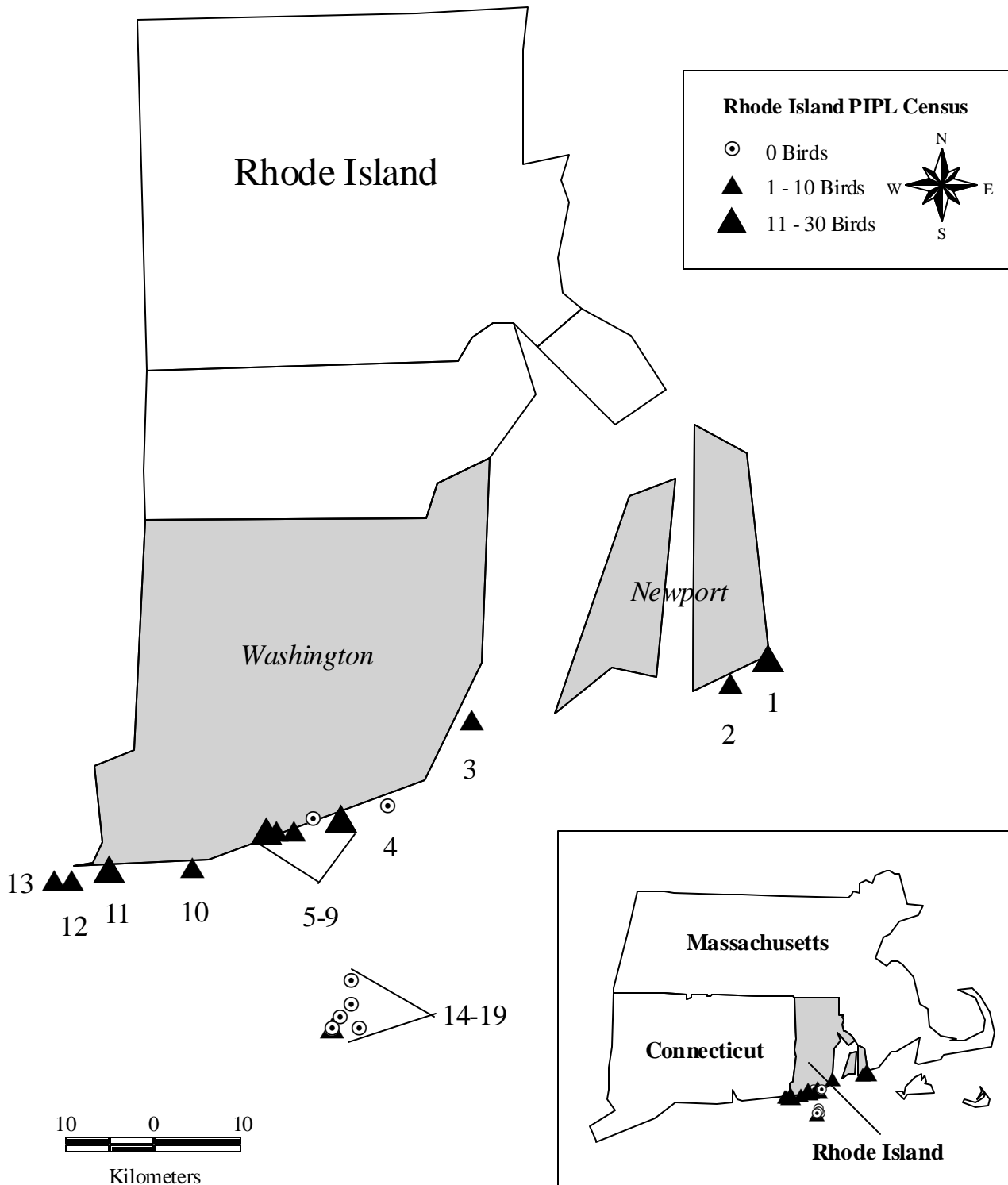
Ninety-three adults (46 breeding pairs) were observed, compared to 91 in 1996 and 47 in 1991, thus the population has increased 98% in the past decade.



Seven censusers participated in the count covering 28 kilometers of linear habitat. The site with the greatest number of birds (20 adults) was Ninigret Conservation Area in Washington County. It held 22% of the state's plovers.

Summarized by C. Ferland.

2001 International Piping Plover Breeding Census - Rhode Island -



The 2001 International Piping Plover Breeding Census in Rhode Island

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Newport	Briggs Beach	2	n.r.	5	10	1.6	I F 1	Not specified	Yes	Yes	p
Newport	Quicksand Pond	1	n.r.	7	14	1.6	I F 1,6	Not specified	Yes	Yes	p
Washington	Block Island - Beanu Point	15	5/30	0	0	1.9	I E 1		No	No	f
Washington	Block Island - Coast Guard Beach	18	6/01	1	2	0.5	I E 1	I E 1	Yes	No	m
Washington	Block Island - Sandy Point/Cow Cove	14	5/30	0	0	1.3	I E 1		Yes	Yes	f/m
Washington	Block Island - Surf Beach to Mansion Beach	17	5/30	0	0	3.2	I E 1		No	No	s(p)/m
Washington	Block Island - West Beach	16	5/30	0	0	2.7	I E 1		No	No	f/m
Washington	Charlestown Beach	19	6/01	0	0	1.2	I E 1		No	No	m
Washington	Charlestown Breachway	7	6/01	1	2	0.1	I A 1	I A 1	No	Yes	s(p)
Washington	East Beach (Maschaug Beach)	11	5/28	5	11	2.6	I A 1	I A 1	Yes	Yes	m/p
Washington	East Matunuck State Beach	4	n.r.	0	0	0.2	I A 1		Yes	Yes	s(p)
Washington	Green Hill Beach	6	6/01	0	0	0.3	I A 1		No	Yes	p
Washington	Napatree Point	12	5/26	4	8	n.r.	I,II A 1,2	I,II A 1,2	Yes	Yes	m
Washington	Narragassett Town Beach	3	n.r.	1	2	0.3	I,V A 1,2	I A 1	No	No	p
Washington	Ninigret Conservation Area	9	n.r.	10	20	n.r.	I A 1	I A 1	Yes	Yes	s(p)
Washington	Ninigret National Wildlife Refuge	8	5/31	1	2	4.8	I A 1	I A 1	No	Yes	f
Washington	Quonochontaug Beach	10	5/27	4	8	2.3	I,II A 1,10	I A 1	Yes	Yes	p
Washington	Sandy Point Island	13	n.r.	1	2	1.1	I,V B 1,11	V B 11	Yes	Yes	p
Washington	Trustom Pond National Wildlife Refuge	5	n.r.	6	12	2.1	I,II A 1,10	I A 1	Yes	Yes	f
Total				46	93	28.0					

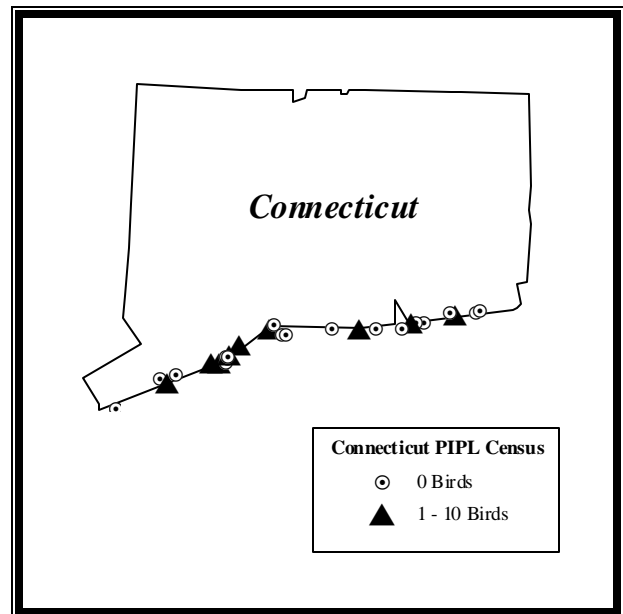
n.r. = not reported

The 2001 International Piping Plover Breeding Census in Connecticut

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The 2001 International Piping Plover Breeding Census in Connecticut was carried out by six people and resulted in observations of 45 adults or 23 breeding pairs. Thanks to the additional effort by the U.S. Fish and Wildlife Service (McKinney NWR) and The Nature Conservancy, 27 sites were surveyed and nine (33.3%) contained Piping Plovers. The census represents 100% of our Piping Plover nesting sites in the state. It was conducted with the same thoroughness used in previous censuses.

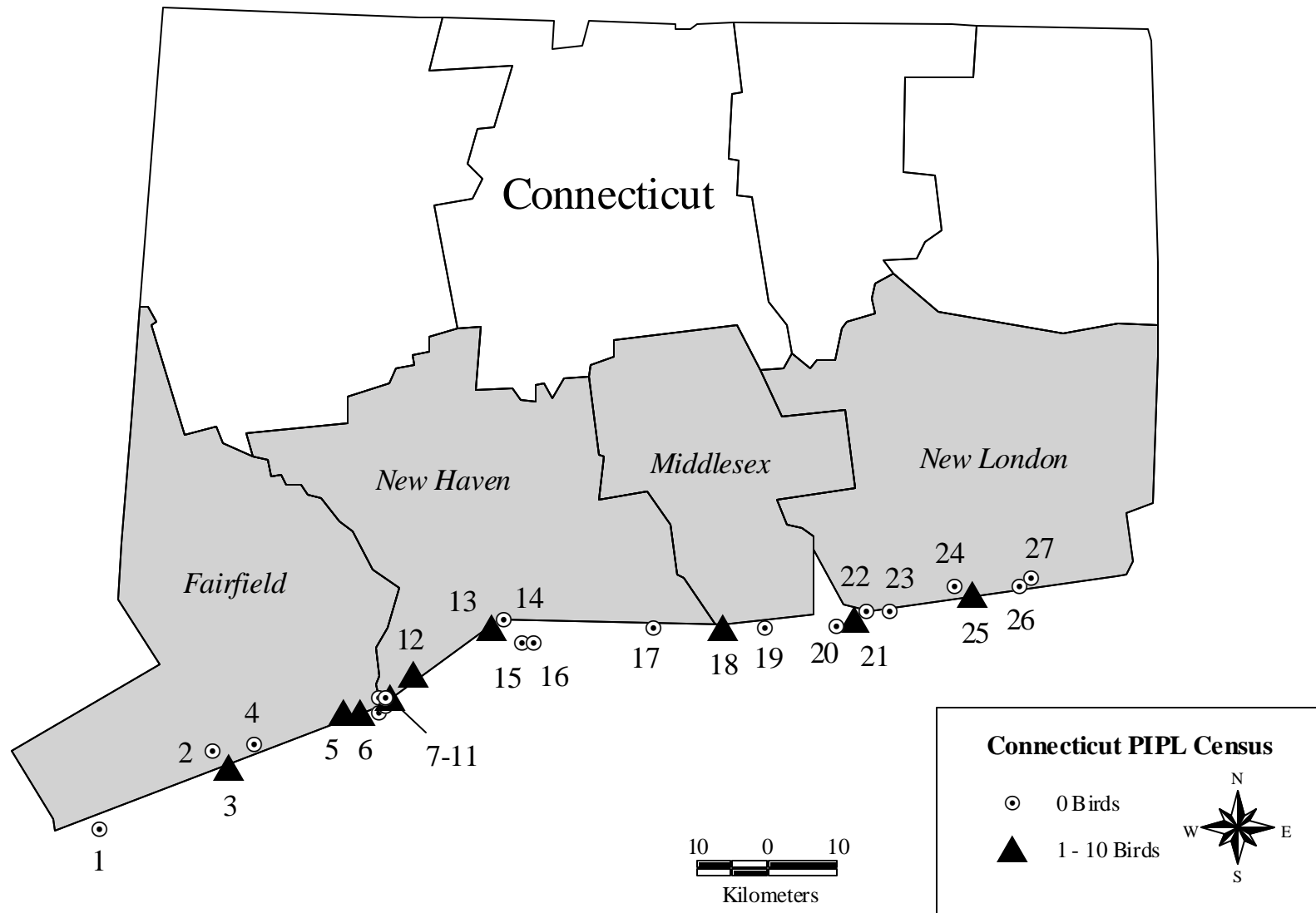
The final census numbers appear to be consistent with figures collected in 1996, though we usually census a week later than we did this year. For every year that we have surveyed, the



census numbers appear to be lower than population estimates determined after observations of the birds for the entire summer. This could be due to surveyors being conservative in their efforts not to count a bird twice.

Factors that most affect Piping Plovers in Connecticut vary from site to site. Human disturbance has been and always will be a problem with 15 of the 27 surveyed sites on public property. While exclosures have increased the hatching success rates, both avian and mammalian predators limit productivity in certain areas.

2001 International Piping Plover Breeding Census - Connecticut -



The 2001 International Piping Plover Breeding Census in Connecticut

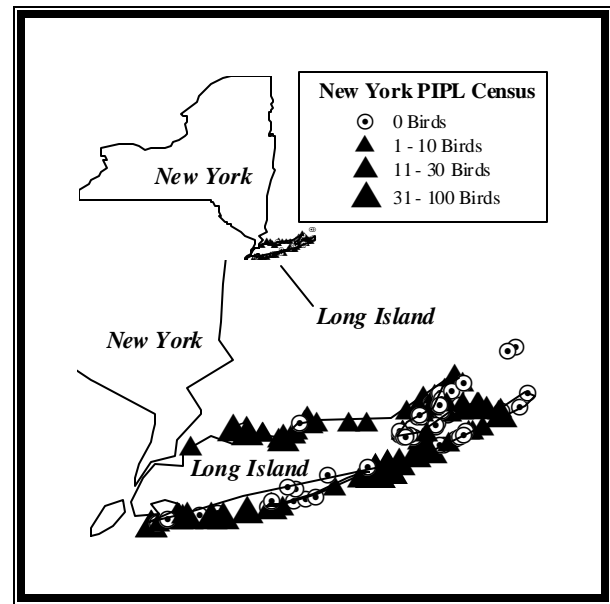
COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	SITE KM	DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Fairfield	Cockenoe Island	3	6/03	1	2	1.6	I E 4,13	I E 4	Yes	Yes	m
Fairfield	Driftwood Point	2	5/31	0	0	0.4	I,II F 8,10		Yes	No	p
Fairfield	Long Beach	6	5/28	4	8	1.6	I A 1,10,12	I A 1,10,12	Yes	Yes	m
Fairfield	Pleasure Beach	5	5/28	3	6	1.6	I A 1,10,12	I A 1,10,12	Yes	Yes	m
Fairfield	Russian Beach	7	5/29	0	0	0.8	I A 10		No	No	p
Fairfield	Sand Island/Pelican Island	1	5/31	0	0	0.2	I D 2		No	No	m
Fairfield	Sherwood Island	4	5/31	0	0	1.6	I A 1,10		Yes	Yes	s(p)
Fairfield	Short Beach	8	5/29	0	0	1.2	I A 1		Yes	Yes	m
Middlesex	Fenwick Point/Lynde Point	20	6/03	0	0	0.4	I A 1,10		Yes	Yes	p
Middlesex	Menunketesuck Island	19	6/03	0	0	0.8	I E 1		Yes	Yes	p
New Haven	East Broadway	12	5/30	1	2	0.4	I A 1	I A 1	No	No	p
New Haven	Grass Island	17	5/30	0	0	0.8	I,II A 1,10		No	Yes	p
New Haven	Hammonasset Beach State Park	18	6/02	5	10	2.0	I,II A 1,10	I,II A 1,10	Yes	Yes	s(p)
New Haven	Kelsey Island	16	6/01	0	0	0.4	I E 1		Yes	Yes	p
New Haven	Milford Point (Connecticut Audubon Society Beach)	10	5/29	0	0	0.4	I A 1,10		Yes	Yes	s(p)/p
New Haven	Milford Point (USFWS Refuge, S.B. McKinney Unit)	9	5/29	0	0	0.4	I,II A,D 1,6,10		No	No	f
New Haven	Milford Point Sandbar	11	5/29	3	6	0.8	I,II D 2,4	I,II D 2,4	Yes	Yes	s(p)
New Haven	Nathan Hale Park	14	6/02	0	0	0.8	I A 1,6		No	No	m
New Haven	Sandy Point/Morse Point	13	5/28	3	6	1.2	I,II D 1,4,10	I D 1,4	Yes	Yes	m
New Haven	Silver Sands Beach	15	5/30	0	0	1.2	I A 1		No	No	p
New London	Bluff Point Coastal Reserve	26	5/29	0	0	1.6	I A,B 1,12		Yes	Yes	n.r.
New London	Griswold Point	21	6/01	2	3	1.6	I B,D 1,12	I D 12	Yes	Yes	p
New London	Harkness Memorial State Park/Goshen Cove	25	5/28	1	2	0.8	I A 1,10	I A 1	Yes	Yes	s(p)
New London	Hatchett's Point	23	6/02	0	0	0.4	I A 1,10		Yes	Yes	p
New London	Jordan Cove	24	5/29	0	0	0.8	I A,D 1,4		Yes	Yes	s(p)
New London	Mile Creek Beach	22	6/02	0	0	0.2	I A 1		Yes	Yes	p
New London	Mumford Cove	27	5/29	0	0	0.8	I A 1		Yes	Yes	p
Total				23	45	24.9					

n.r. = not reported

The 2001 International Piping Plover Breeding Census in New York

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New York has a total of 125 Piping Plover sites that are surveyed annually. One hundred and fourteen of those sites were surveyed for the 2001 International Piping Plover Breeding Census. Six of the missed sites have not had documented plover breeding in several years and have only marginal habitat. However, Cutchogue Harbor, Robins Island, Reel Point, Half Moon Beach, and Plum Point have had plover activity in recent years and it is possible

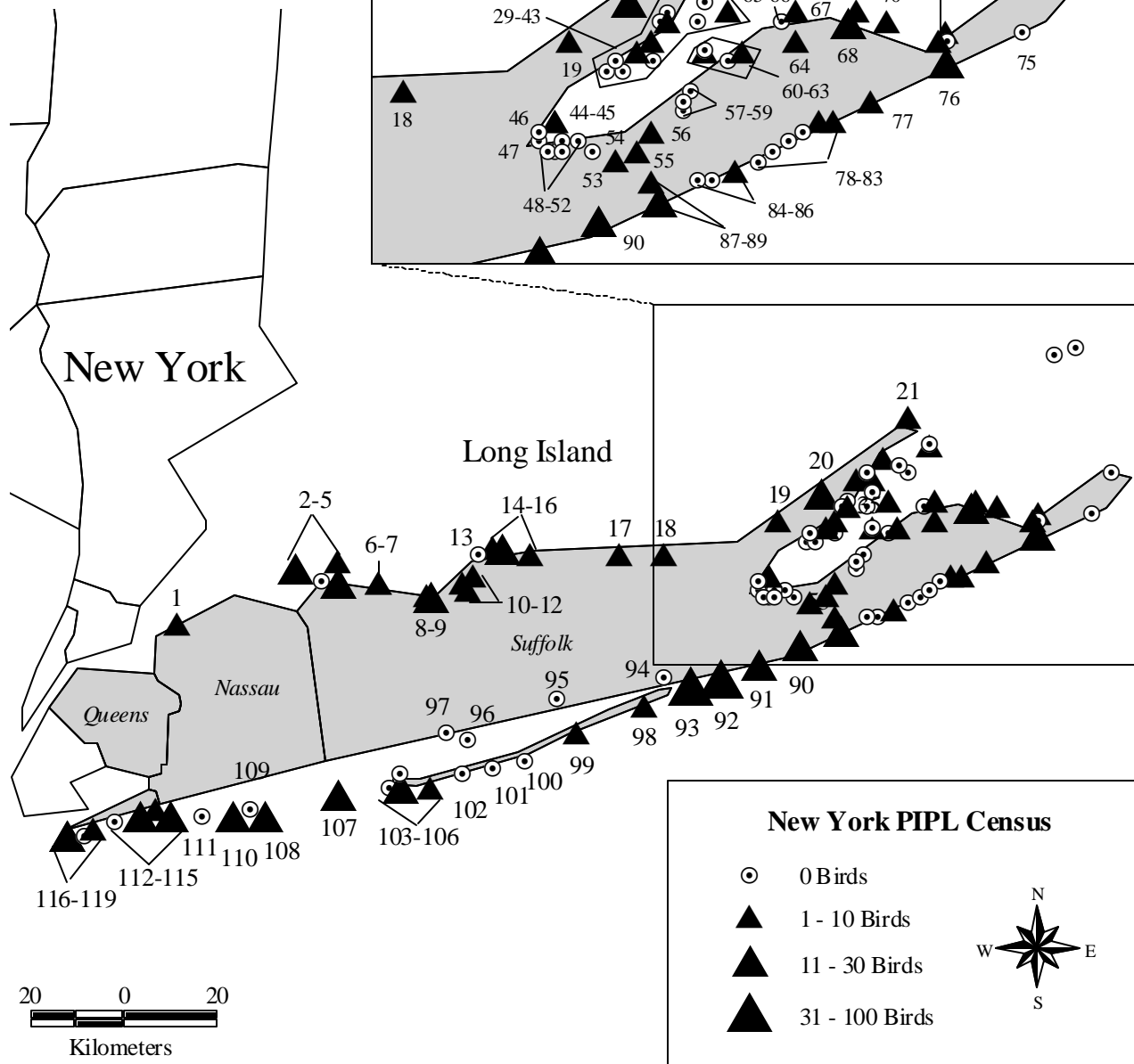
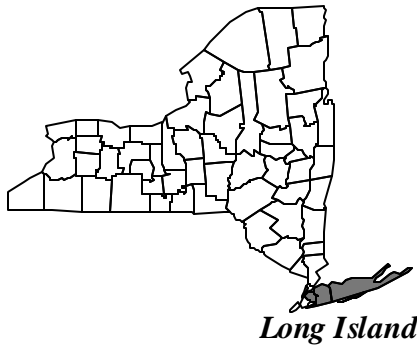


that as many as six pairs may have been missed at those sites.

The total breeding pairs observed in New York during the 2001 International Census window was 309.

2001 International Piping Plover Breeding Census - New York -

New York



2001 International Piping Plover Census in New York

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Nassau	Long Beach Island Atlantic Beach	112	5/26	6	12	1.3	I B 1,12	I B 1,12	No	Yes	s(p)
Nassau	Long Beach Island Lido Beach	110	5/26	9	18	1.8	I B 1,12	I B 1,12	No	Yes	m/p
Nassau	Long Beach Island Long Beach	111	5/30	0	0	4.2	I B 1		No	Yes	s(p)
Nassau	Long Beach Island Point Lookout	109	5/30	0	0	1.0	I B 1,12		No	Yes	s(p)
Nassau	Prospect Point	1	5/28	4	8	0.4	III A 1,8,10	Not specified	No	No	p
Nassau/Suffolk	Jones Beach Island East	107	5/30	15	30	5.6	I B 1,12	I B 1,12	Yes	Yes	s(p)
Queens	Arverne by the Sea	114	6/04	14	28	1.6	I B 1,10,12	I B 1,10,12	No	Yes	m
Queens	Breezy Point (Cooperative Area)	118	5/30	7	14	1.6	I B 1	I B 1	Yes	Yes	p
Queens	Breezy Point (Nat. Park Service property)	119	6/06	9	18	4.0	I F 1,10,12	I F 1,10	Yes	Yes	f
Queens	Far Rockaway	113	5/29	1	2	n.r.	I A 1,10,12	I A 1,10,12	No	No	m
Queens	Fort Tilden Beach	117	6/06	0	0	1.6	I F 1,10,12		Yes	Yes	f
Queens	Jacob Riis Beach	116	6/06	2	4	1.6	I F 1	I F 1	Yes	Yes	f
Queens	Rockaway Beach	115	5/29	0	0	6.5	I A 1		No	No	m
Suffolk	Accabonac Harbor	70	5/27	3	6	4.0	II A 1,6	II A 6	No	Yes	m
Suffolk	Asharoken Beach	6	5/31	4	8	3.2	II A,F 1,6	II A 1,6	No	Yes	p
Suffolk	Atlantic Double Dunes	77	5/30	0	1	6.5	I A 1,10	Not specified	No	Yes	s(p)
Suffolk	Birch Creek	48	5/31	0	0	n.r.	II A 1		No	No	m
Suffolk	Cedar Beach Point	34	n.r.	0	0	1.2	II A 1,2		Yes	Yes	s(p)/m
Suffolk	Cedar Beach to Mount Sanai	16	5/30	1	2	2.0	III A 1,6	III A 1	No	No	m/p
Suffolk	Cedar Point	67	5/29	5	10	3.2	II A 2,6	II A 2,6	Yes	Yes	m
Suffolk	Conkling Point	30	5/30	1	2	0.8	II D 6	II D 6	Yes	Yes	p
Suffolk	Corey Creek Mouth	36	5/29	0	1	0.8	II A 6	II A 6	Yes	No	m/p
Suffolk	Cow Yard Beach	51	5/31	0	0	n.r.	II A 1		No	No	m
Suffolk	Crab Creek	32	5/30	0	0	1.3	II A 6		Yes	Yes	p
Suffolk	Crab Meadow Beach	7	5/29	2	4	1.6	II A 1,6	II A 1,6	Yes	Yes	m
Suffolk	Cutchogue Harbor	40	5/30	1	2	1.0	II F 1,8,10	Not specified	No	Yes	p
Suffolk	Downs Creek	41	n.r.	0	0	0.2	Not specified		Yes	Yes	n.r.
Suffolk	East Hampton Beach	78	5/30	1	2	3.2	I A 1,10	I A 1	Yes	Yes	m/p
Suffolk	Eatons Neck Point	5	5/25	2	4	3.2	II A 2	II A 2	Yes	Yes	p
Suffolk	Fairfield Pond Lane Beach	81	5/31	0	0	2.6	I A 1		No	Yes	n.r.
Suffolk	Fire Island Democrat Point	104	5/27	7	14	4.8	I,II,III B 1,2,4,11,12	I,II,III B 1,2,11,12	Yes	Yes	s(p)
Suffolk	Fire Island East (aka Smith Point)	98	5/30	5	10	16.1	I,II B 1,2,4,8,10,12	I B 1,12	Yes	Yes	m

2001 International Piping Plover Census in New York (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Suffolk	Fire Island Lighthouse (FINS)	105	5/29	0	0	1.6	I B 1,12		Yes	Yes	n.r.
Suffolk	Fire Island Lighthouse (Robert Moses SP)	103	5/27	2	4	12.9	I B 1,12	I B 1,12	No	Yes	s(p)
Suffolk	Fire Island Pines	100	5/31	0	0	4.0	I B 1,12		Yes	Yes	n.r.
Suffolk	Fire Island Sunken Forest	101	5/27	0	0	2.4	I A 1,12		Yes	Yes	n.r.
Suffolk	Fire Island Villages	102	6/01	0	0	16.1	I,II B 1,10,12		Yes	Yes	f/m
Suffolk	Fire Island Wilderness	99	n.r.	4	8	n.r.	I B 1	Not specified	Yes	Yes	p
Suffolk	Fishers Island Airfield Beach	22	5/27	0	0	0.8	Not specified		Yes	Yes	n.r.
Suffolk	Fishers Island Beach Pond	23	5/30	0	0	0.8	Not specified		Yes	Yes	n.r.
Suffolk	Flax Pond Beach	13	5/30	0	0	3.2	III A 6		No	Yes	s(p)/p
Suffolk	Fresh Pond	59	5/31	0	0	0.3	II A 1,6		No	Yes	m
Suffolk	Fresh Pond Landing	18	5/29	2	4	1.6	III A 6	II A 6	Yes	Yes	n.r.
Suffolk	Georgica Pond	79	5/30	1	2	1.6	I A 1,10	I A 1	Yes	Yes	m/p
Suffolk	Gibson Beach	66	n.r.	0	0	n.r.	Not specified		Yes	Yes	n.r.
Suffolk	Gin Lane Beach	86	5/31	0	0	2.1	I B 1		No	Yes	s(p)
Suffolk	Goff Point	73	5/29	2	4	4.8	II F 2,6,10	II F 6,10	Yes	Yes	s(p)
Suffolk	Goldsmith Inlet	20	6/02	6	12	4.8	II A 1,11	II A 1,11	Yes	Yes	m/p
Suffolk	Goose Creek Flanders Bay	47	6/01	0	0	0.8	Not specified		Yes	Yes	m
Suffolk	Goose Creek Southold Bay	35	5/31	0	0	n.r.	II A 1		No	No	n.r.
Suffolk	Gull Pond West	28	5/31	2	4	0.5	II A 1,10,12	Not specified	Yes	Yes	p
Suffolk	Heckscher Beaches	96	6/01	0	0	1.2	II A 1		Yes	Yes	n.r.
Suffolk	Hicks Island	72	5/31	2	5	2.4	II E 1,6,10,12	II E 1,6,10,12	Yes	Yes	s(p)
Suffolk	Jamesport Town Beach	45	5/29	1	2	1.2	II A 1	Not specified	Yes	Yes	m
Suffolk	Jessup Neck (Clam Island)	61	5/26	0	0	2.4	II A 1,2,6,10,12		No	No	m
Suffolk	Jessup Neck (USFWS property)	60	5/27	2	4	4.8	II F 1,6	Not specified	No	Yes	f
Suffolk	Jones Beach Island West	108	5/31	13	26	7.7	I,III B 1	I,III B 1	No	Yes	s(p)
Suffolk	Kimogener Point	42	n.r.	0	0	0.3	Not specified		No	Yes	n.r.
Suffolk	Lazy Point	71	5/31	0	0	0.8	II A 1,6,10		No	Yes	m
Suffolk	Lionhead Beach	69	5/27	2	4	2.8	II A 1,6	II A 1,6	Yes	Yes	m/p
Suffolk	Little Creek	38	5/29	1	2	0.8	II A 1	II A 1	No	Yes	n.r.
Suffolk	Little Hog Neck	39	5/29	0	0	0.8	II A 1		No	Yes	p
Suffolk	Lloyd Neck East Beach	3	5/29	0	0	1.6	II A 6,10		No	Yes	m
Suffolk	Lloyd Point	2	6/21	7	14	2.4	II A 2,6,13	Not specified	Yes	Yes	s(p)

2001 International Piping Plover Census in New York (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Suffolk	Long Beach Peninsula	10	5/29	1	2	11.3	II,III A 1,2	III A 1	Yes	Yes	m
Suffolk	Long Beach Sag Harbor	63	5/31	2	4	1.6	II A 6	II A 6	No	Yes	n.r.
Suffolk	Lower Beach	26	5/30	0	0	0.8	II F 6,8,12		No	Yes	m
Suffolk	Marratooka Point	43	5/30	0	0	0.5	II A 1		Yes	Yes	p
Suffolk	Mashomack Point	65	5/30	0	0	5.0	II E 1,6		Yes	Yes	p
Suffolk	Mattituck Inlet	19	6/04	2	6	3.2	III A 1,11	III A 1,11	No	Yes	m/p
Suffolk	Meschutt Beach	54	5/31	1	2	2.1	II A 6	Not specified	No	Yes	p
Suffolk	Miamogue Point	44	5/30	1	2	0.8	II D 4	II D 4	No	Yes	p
Suffolk	Middle Pond Inlet	89	5/31	2	4	0.3	II A 1,6	Not specified	Yes	Yes	s(p)
Suffolk	Mill Creek	52	5/31	0	0	0.8	II A 1,10		No	No	m
Suffolk	Montauk Beach	75	6/01	0	0	4.0	I A 1		No	Yes	m
Suffolk	Mount Misery Point	15	6/03	6	12	3.2	II,III A 1,6,12,13,15	III A 6,12,15	Yes	Yes	m
Suffolk	Napeague Beach	76	5/29	6	12	10.5	I A 1,10,12	I A 1,10,12	Yes	Yes	s(p)/m
Suffolk	Northwest Creek Mouth	64	5/29	3	6	2.4	II A 1,2,6,8,11	II A 8,11	No	Yes	m
Suffolk	Oak Beach	106	5/30	0	0	2.1	I B 1		No	Yes	s(p)/m
Suffolk	Old Field Beach	14	5/31	1	2	3.6	III A 6	III A 6	Yes	Yes	m
Suffolk	Old Town Road Beach	85	5/31	0	0	0.8	Not specified		No	Yes	m
Suffolk	Orient Beach	24	6/01	2	4	11.3	III B 1,6,10	Not specified	Yes	Yes	s(p)
Suffolk	Oyster Pond	25	6/01	0	0	2.4	I A 1,6,10		Yes	Yes	s(p)
Suffolk	Pine Neck	62	5/31	0	0	0.6	II A 1		Yes	Yes	n.r.
Suffolk	Pipes Cove	29	5/30	0	0	n.r.	II A 1		No	No	p
Suffolk	Plum Island	21	5/30	1	2	0.8	II E 1	II E 1	No	No	f
Suffolk	Port of Egypt	31	5/31	1	2	0.2	II C 1	II C 1	No	Yes	p
Suffolk	Quintuck Creek	97	6/01	0	0	0.4	II A 10		No	Yes	m
Suffolk	Red Cedar Point	49	5/31	0	0	0.5	II A 6		Yes	Yes	s(p)
Suffolk	Red Creek Pond	50	5/31	0	0	0.8	II A 6		No	Yes	n.r.
Suffolk	Richmond Creek	37	5/29	0	0	0.5	II A 1		Yes	Yes	m
Suffolk	Roe Avenue Patchogue	95	6/01	0	0	0.2	II A 1		Yes	Yes	m/p
Suffolk	Sagaponack Pond	82	5/31	0	0	2.7	I A 1		No	Yes	n.r.
Suffolk	Sammys Beach Peninsula	68	5/26	6	12	1.6	II A,C 1,10	II A,C 1	No	Yes	m/p
Suffolk	Sams Creek	83	5/31	0	0	0.8	II A 1		No	Yes	n.r.
Suffolk	Sand City	4	5/30	5	11	1.6	II D 2,6	II D 2,6	Yes	Yes	m

2001 International Piping Plover Census in New York (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Suffolk	Sebonac Creek	56	5/31	3	6	2.4	III E 1	III E 1	No	Yes	n.r.
Suffolk	Sebonac Neck	55	5/31	2	4	2.4	II A 1,6	II A 1,6	Yes	Yes	p
Suffolk	Shagwong Point	74	6/03	0	0	2.8	III A 1		No	No	m
Suffolk	Shell Beach	33	5/29	1	2	2.0	II D 1,6	Not specified	Yes	Yes	m
Suffolk	Short Beach	9	5/31	7	14	2.4	III A 1,11	III A 11	Yes	Yes	m
Suffolk	Simmons Point	46	5/30	0	0	1.1	II D 13		No	Yes	p
Suffolk	Southampton Beach (East County Park)	88	5/31	1	2	0.8	I B 1	I B 1	Yes	Yes	c
Suffolk	Southampton Beach (Southampton Village)	87	n.r.	8	16	n.r.	Not specified	Not specified	Yes	Yes	n.r.
Suffolk	Squire Pond	53	5/31	0	0	0.8	II A 1,6		No	Yes	n.r.
Suffolk	Sunken Meadow	8	5/28	1	2	1.2	II E 6,8,10,12	II E 6,8	No	Yes	s(p)
Suffolk	Terrel River	94	5/30	0	0	0.2	II A 1		No	No	m
Suffolk	Towd Neck	57	5/31	0	0	2.3	II A 1		No	Yes	s(p)
Suffolk	Upper Beach	27	5/30	0	0	2.0	II A 1,6		No	Yes	f
Suffolk	Wading River Beach	17	5/29	4	8	1.6	III A 1	III A 1	No	Yes	m/p
Suffolk	Wainscott Pond	80	5/30	0	0	0.8	I A 1,10		No	Yes	m/p
Suffolk	Watermill Beach	84	5/31	2	4	4.7	I A 1	Not specified	No	Yes	p
Suffolk	West Meadow Beach	12	5/29	1	2	2.0	III A 6	III A 6	No	Yes	m
Suffolk	Westhampton Island Hampton Beach	91	5/31	8	16	6.0	I B 1	I B 1	No	Yes	p
Suffolk	Westhampton Island Tiana Beach	90	n.r.	15	30	7.7	I B 1,3	I B 1,3	No	Yes	m/p
Suffolk	Westhampton Island West	93	5/29	42	84	4.0	I,II B 1,2,8,10,12	I,II B 1,2,8,10,12	No	Yes	m/p
Suffolk	Westhampton Island Westhampton Beach	92	5/30	27	54	6.1	I B 1,12	I B 1,12	Yes	Yes	p
Suffolk	Wooley Pond	58	5/31	0	0	0.5	II A 1		No	Yes	p
Suffolk	Youngs Island	11	5/29	1	2	4.8	II C 1	II C 1	No	Yes	m
Total				309	624	311.2					

n.r. = not reported

The 2001 International Piping Plover Breeding Census in New Jersey

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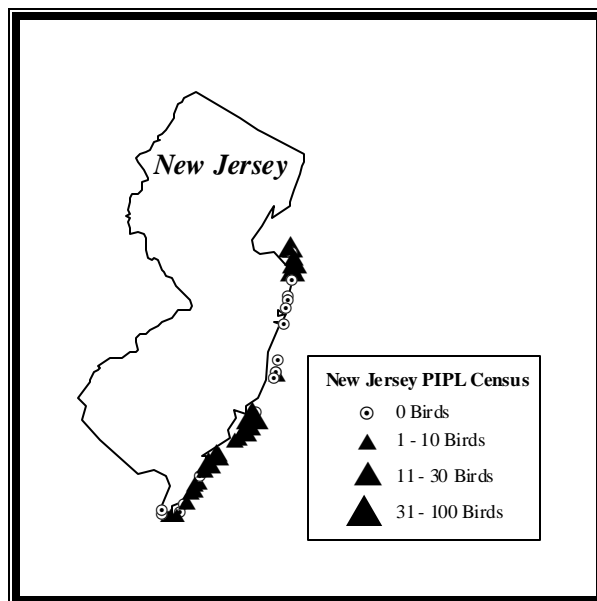
Due to extensive monitoring of Piping Plovers prior, during, and after the census window by the New Jersey Endangered and Nongame Species Program (and its cooperators) it is believed that 100% of known nesting sites and “suitable habitat” were censused in 2001.

“Suitable habitat” is being defined by us as:

- Sites still existing that have had Piping Plovers nesting in the past 15 years – since the Piping Plover was federally listed in 1986.
- New habitat as it becomes available via beach replenishment projects or natural forces.
- Areas that have not historically had Piping Plovers but are directly adjacent to major nesting sites and have at least some habitat available.

Because of periodic changes in nesting patterns and the large number of beach restoration projects in New Jersey, we will continue to reassess areas that need to be considered for future surveys prior to each census.

The New Jersey Endangered and Nongame Species Program believes that our final season count is a more accurate reflection of New



Jersey’s Piping Plover population than the “census window” count. This is due, in part, to extensive monitoring at nearly all sites (3-5 times weekly) throughout the season, which increases the accuracy of final nesting data, and takes renesting into consideration. The final season count also compensates for any “unusual” variability in numbers that may occur within a shorter (10 day) census period.

Although we conducted directed productivity surveys of beaches during the census period, the numbers presented here have been modified to include pairs of Piping Plovers that were known to be present during the census period but not detected during the productivity surveys. We also included pairs that were not known to be present until after the survey period, but which had to have been present based on nesting phenology. We also included both members of nesting pairs in the total count, although only one bird may actually have been seen during the productivity survey.

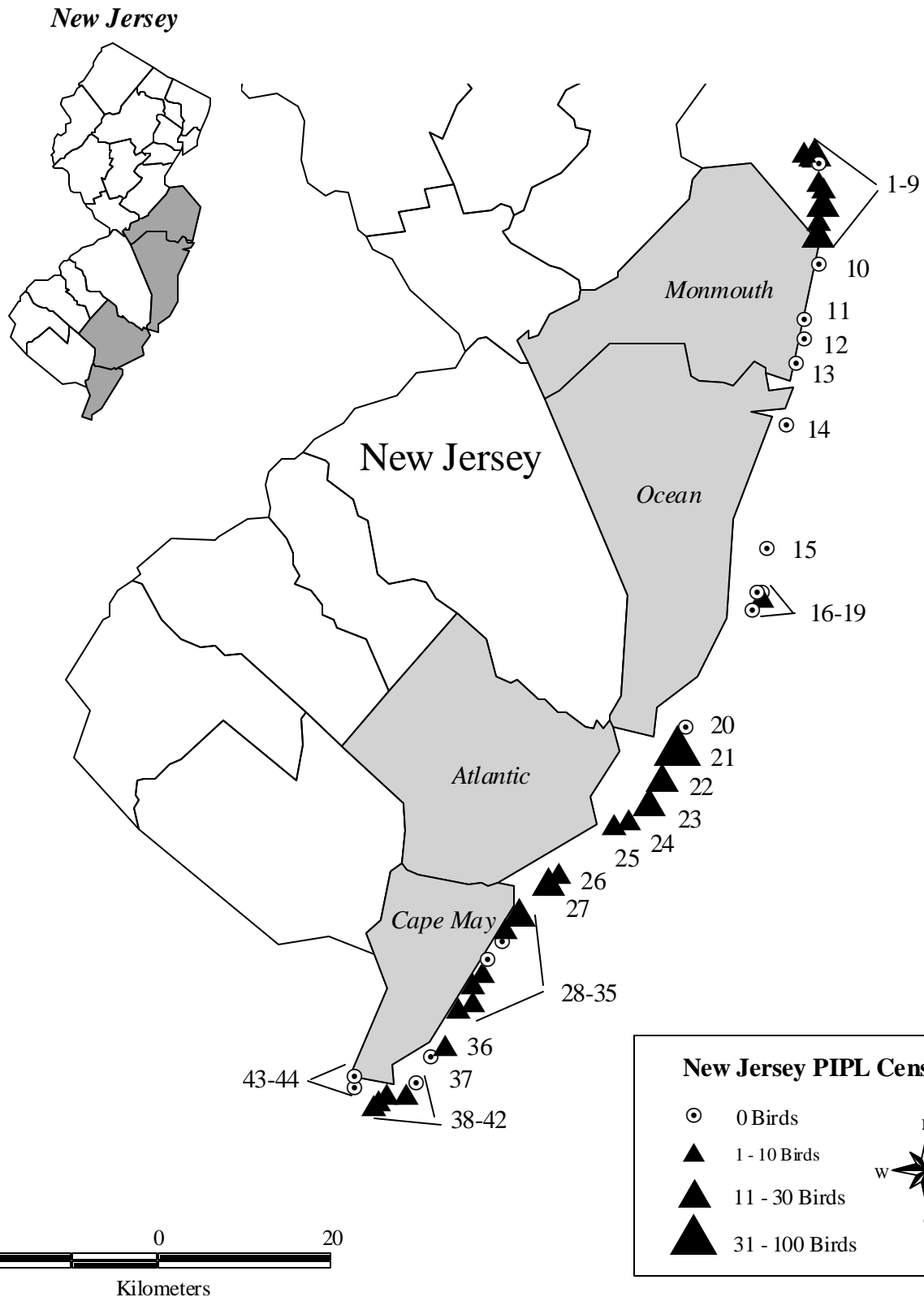
This “adjustment” accounts for the low number of unpaired adults reported here. Most of the unpaired adults reported are at the Holgate and Little Beach sites. Numbers were not adjusted at these two sites in 1991 or 1996, so for the sake of consistency, they were not adjusted in 2001.

The total number of birds reported in the 2001 breeding census is about the same as in 1996 (228 vs. 225*, respectively). Both figures are well below the total birds reported in 1991 (280). This trend does not follow the trend of our final season count, which was about the same in 1991 and 1996 (126 and 127 pairs, respectively) and slightly lower in 2001 (121 pairs). The significantly higher census count in 1991 may reflect a higher number of non-nesting migratory birds being present that year during the census window period.

Productivity in the prior 1-2 years, which is often affected by levels of predation of both chicks and nests, is the primary factor affecting population trends. Availability of habitat, both gains and losses, also has a significant impact on population.

* Includes an adjustment of 16 additional unpaired adults than were not reported in the 1996 final census report or the literature.

2001 International Piping Plover Breeding Census - New Jersey -



The 2001 International Piping Plover Breeding Census in New Jersey

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Atlantic	Brigantine Beach South	24	5/31	0	1	8.1	I B 1,10,12	I B 1	Yes	Yes	m
Atlantic	Brigantine Cove	25	5/31	1	2	0.6	I,II,III B 1,4,10,12	III B 1	Yes	Yes	m
Atlantic	Little Beach Island	22	5/31	9	18	5.2	I B 1,10,11	I B 1,10,11	Yes	Yes	f
Atlantic	Longport Sodbanks	26	6/03	1	4	0.8	I,III E 1,10,12	I E 1	Yes	Yes	p
Atlantic	North Brigantine Natural Area	23	5/31	12	24	3.2	I,II B 1,2,8,10,12	I,II B 1,2,8,12	Yes	Yes	s(p)
Cape May	2 Mile Beach	39	5/31	1	2	2.4	I B 1	I B 1	Yes	Yes	f
Cape May	Avalon Dunes (32nd St. - 60th St.)	35	6/02	3	6	3.2	I B 1,12	I B 1,12	Yes	Yes	m
Cape May	Avalon North	34	6/02	1	2	2.6	I B 1,12	I B 12	Yes	Yes	m
Cape May	Cape May Migratory Bird Refuge	42	6/04	1	3	1.6	I A 1,10,12	I A 1,10	Yes	Yes	p
Cape May	City of Cape May	41	5/28	2	4	4.0	I A 1,12	I A 1,12	No	No	m
Cape May	Corson's Inlet State Park	29	5/28	1	3	1.1	I,III B 1,10,12	I B 1	Yes	Yes	s(p)
Cape May	Ferry Beach	44	5/27	0	0	1.3	II A 1,10,12		Yes	Yes	m/p
Cape May	Higbee Beach/Sunset Beach	43	5/27	0	0	1.6	II A 1,10,12		Yes	Yes	s(p)/p
Cape May	North Wildwood	37	5/28	0	0	1.5	I A 1		Yes	Yes	m
Cape May	Ocean City Center (18th St. - 59th St.)	28	6/03	9	18	5.8	I B 1,12	I B 1,12	Yes	Yes	m
Cape May	Ocean City North	27	6/03	7	14	2.9	I B 1,12	I B 1,12	Yes	Yes	m
Cape May	Sea Isle North	31	5/30	0	0	3.2	I B 1,12		Yes	Yes	m
Cape May	Sea Isle South	32	5/30	1	2	2.6	I B 1,12	I B 12	Yes	Yes	m
Cape May	Stone Harbor Point	36	6/01	3	6	2.1	I,II,III B 1,4,8,12	I,II B 1,8	Yes	Yes	m
Cape May	Strathmere/Whale Beach	30	5/28	0	0	2.6	I,III B 1,10,12		Yes	Yes	s(p)/m
Cape May	Townsend's Inlet	33	5/30	1	2	1.6	I,III B 1,10,12	I B 1	Yes	Yes	m
Cape May	USCG Training Center	40	5/29	2	5	1.6	I A 1,10,11	I A 1	Yes	Yes	f
Cape May	Wildwood Crest	38	5/31	0	0	1.8	I A 1		No	No	m
Monmouth	Asbury Park/Bradley Beach/ Ocean Grove/Avon-by-the-Sea	11	5/31	0	0	4.0	I A 1,11		No	No	m
Monmouth	Belmar	12	5/31	0	0	1.9	I A 1,11		No	No	m
Monmouth	Critical Zone - Sandy Hook NRA	5	6/02	1	2	0.2	I B 1,12	I B 1	Yes	Yes	f
Monmouth	Fee - Sandy Hook NRA	7	6/02	6	12	0.4	I B 1,10,12	I B 1,12	No	No	f
Monmouth	Hidden - Sandy Hook	6	6/02	3	6	0.4	I B 1,12	I B 1	No	No	f
Monmouth	Long Branch	10	5/31	0	0	4.8	I A 1		No	No	m/c
Monmouth	Monmouth Beach	9	6/01	6	12	2.9	I A 1,12	I A 1,12	No	Yes	m
Monmouth	North Beach - Sandy Hook	2	6/02	9	19	1.6	I B 1,12	I B 1,12	Yes	Yes	f

**The 2001 International Piping Plover Breeding Census in New Jersey
(Continued)**

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Monmouth	North Gunnison - Sandy Hook	3	6/02	3	6	0.8	I A 1,10,12	I A 1	No	Yes	f
Monmouth	Sea Bright	8	6/01	2	4	5.2	I B 1,12	I B 1,12	No	No	m
Monmouth	South Gunnison - Sandy Hook	4	6/02	0	0	1.2	I B 1,12		Yes	Yes	f
Monmouth	Spring Lake/Sea Girt/Manasquan	13	5/31	0	0	8.1	I A 1		No	Yes	s(p)/m
Monmouth	USCG - Sandy Hook	1	6/02	5	10	1.6	I B 1,12	I B 1,12	Yes	Yes	f
Ocean	Barnegat Light	17	5/30	2	5	4.8	I B 1,10,12	I B 1,10,12	Yes	Yes	m
Ocean	Breach Inlet to Barnegat Inlet	16	5/31	0	0	0.4	I,III B,F 1,4		No	No	s(p)
Ocean	Harvey Ceders/Loveladies	19	5/30	0	0	3.2	I B 1,10,12		Yes	Yes	m
Ocean	High Bar Harbor	18	5/30	0	0	1.6	II B,D,F 1,4,10		No	No	s(p)
Ocean	Holgate Township	20	5/30	0	0	1.6	I B 1		No	No	m
Ocean	Holgate Unit - Forsythe NWR	21	5/30	17	36	4.8	I B 1,8,10,12	I B 1,8,10,12	Yes	Yes	f
Ocean	Island Beach State Park	15	5/31	0	0	11.3	I B 1,12		Yes	Yes	s(p)
Ocean	Mantoloking	14	6/07	0	0	4.5	I B 1,12		Yes	Yes	m/p
Total				109	228	127.0					

The 2001 International Piping Plover Breeding Census in Delaware

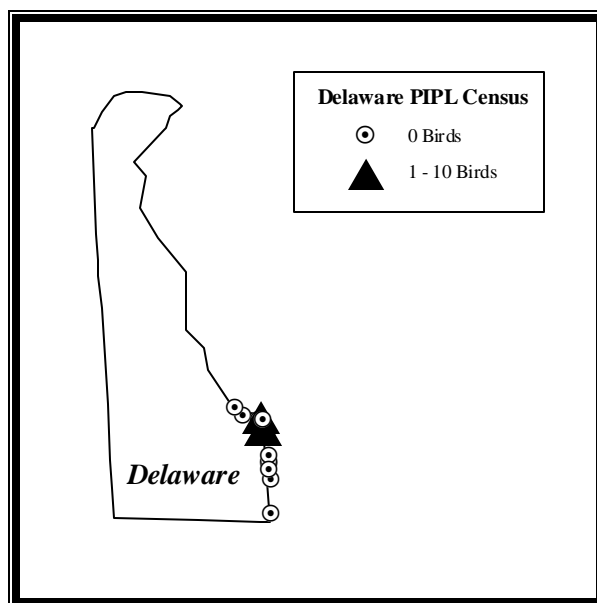
Alice Doolittle
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All known Piping Plover nesting areas and suitable habitat in Delaware were surveyed during the census.

Thirteen of the 17 sites that were surveyed in 1996 were included in the 2001 census. The remaining four sites were not surveyed due to lack of habitat and presence of beachfront development.

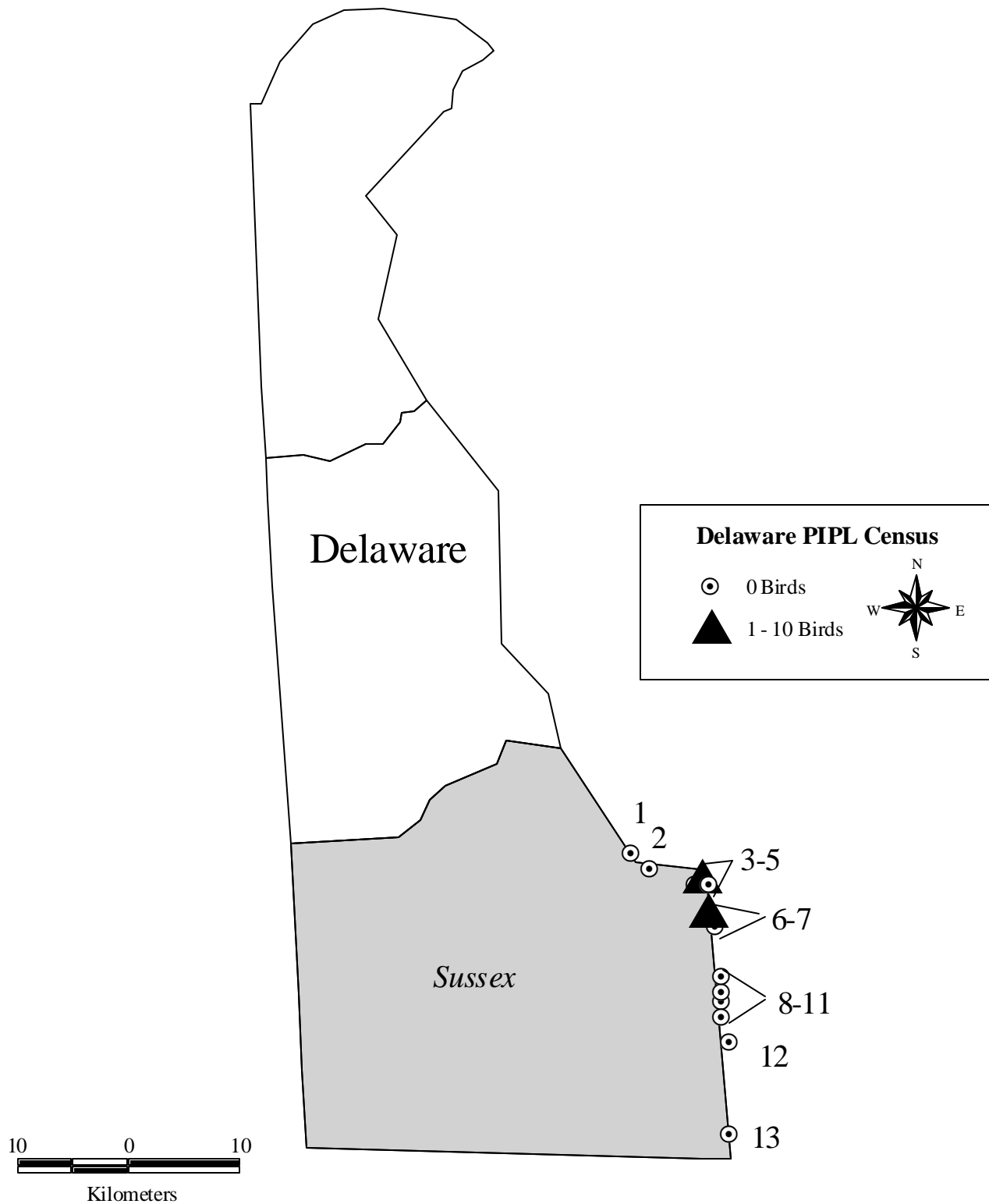
I believe the 2001 census results approximate Delaware's population. However, one additional breeding pair was discovered well after the census period.

Lack of suitable habitat may be the most significant factor limiting the number of Piping



Plovers breeding in Delaware. Most of the state's 23 miles of ocean beaches have been extensively manipulated through beach replenishment, reinforcement, vegetating of primary dunes, and construction of boardwalks and other structures. High levels of human use (including vehicular use in some places) and potential predators (red fox, fish crows, feral cats, etc.) appear to be additional significant factors that may influence both plover use of Delaware beaches and their reproductive success.

2001 International Piping Plover Breeding Census - Delaware -



The 2001 International Piping Plover Breeding Census in Delaware

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	SITE KM DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWN
Sussex	Beach Plum Island Nature Preserve	2	5/30	0	0	3.4 III A 1		Yes	Yes	s(p)
Sussex	Broadkill Beach, Beach Plum Island	1	5/30	0	0	3.1 III A 1		Yes	Yes	s(p)/p
Sussex	Cape Henlopen S.P. (Gordon's Pond to Herring Point)	6	5/26	2	4	2.1 I,III A 1,8,12	III A 1,8	No	Yes	s(p)
Sussex	Cape Henlopen S.P. (Herring Point to Ocean Side Point Crossing)	5	5/29	0	0	3.2 I A 1		No	Yes	s(p)
Sussex	Cape Henlopen S.P. (Ocean Side Point Crossing to Fishing Pier)	4	5/26	3	6	3.9 I,II A 1,4,8,12	I,II A 1,4,8	Yes	Yes	s(p)
Sussex	Delaware Seashore S.P. (Conquest Road to Coast Guard Station)	10	6/02	0	0	1.9 I A 1		Yes	Yes	s(p)
Sussex	Delaware Seashore S.P. (Indian River Inlet to Coast Guard Station)	11	6/02	0	0	2.7 I A 1		Yes	Yes	s(p)
Sussex	Delaware Seashore S.P. (Key Box Road to Conquest Road)	9	6/02	0	0	1.6 I A 1		Yes	Yes	s(p)
Sussex	Delaware Seashore S.P. (Tower Road to Key Box Road)	8	6/03	0	0	1.9 I A 1		Yes	Yes	s(p)
Sussex	Delaware Seashore S.P. (3R's Road to Indian River Inlet)	12	5/31	0	0	1.6 I A 1,12		Yes	Yes	s(p)
Sussex	Fenwick Island S.P. (bathhouse to York Beach)	13	5/31	0	0	4.2 I A 1		Yes	Yes	s(p)
Sussex	Lewes Beach	3	5/30	0	0	1.6 II A 1		No	Yes	s(p)/m/p
Sussex	Rehoboth Beach	7	5/30	0	0	2.3 I A 1		No	Yes	s(p)
Total				5	10	33.5				

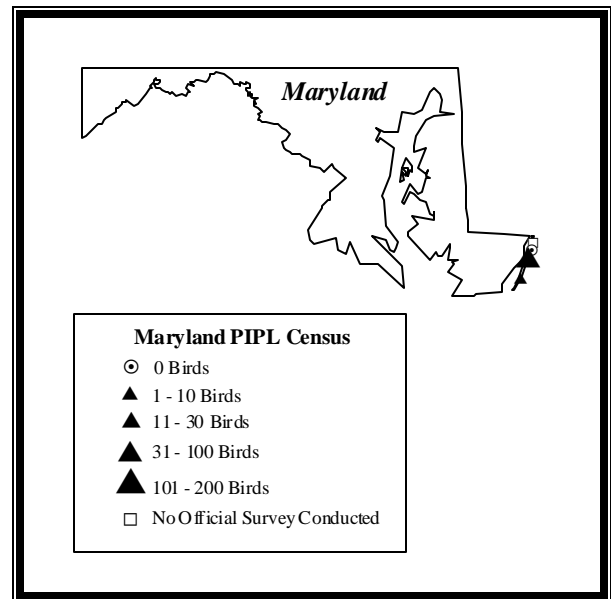
The 2001 International Piping Plover Breeding Census in Maryland

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All known suitable Piping Plover habitat in the state lies along Maryland's coastline. There are no known historic records of Piping Plovers within the Maryland portion of the Chesapeake Bay. One remotely potential site – Fenwick Island (Ocean City) – was not censused. However, development is extensive and the last record of breeding plovers there was in 1960 (Atlas of the Breeding Birds of Maryland and the District of Columbia, 1996). Fenwick Island should be checked in future surveys in case an isolated pair/individual decides to re-occupy the historic area.

Census procedures were consistent with previous efforts, thus results should be comparable. The results are representative of the population of Piping Plovers in Maryland. The amount of available habitat is limited and intensive surveys are conducted annually.

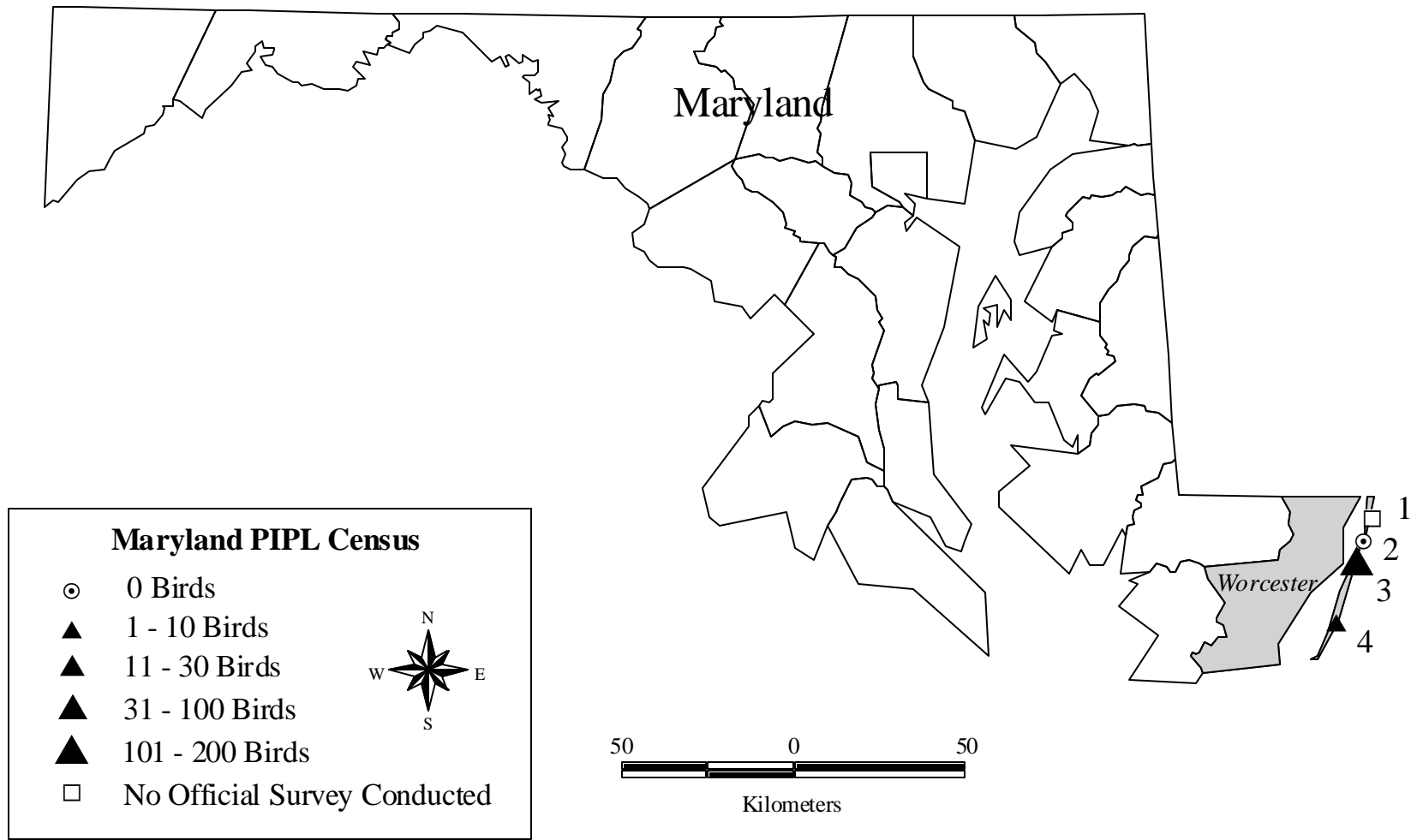
Skimmer Island was the only new census site. Habitat there has become progressively more suitable since the mid-1980's and is now supporting a large waterbird colony. No Piping



Plovers were found there this year, but it could support a pair of plovers and should be surveyed in the future.

The size of the plover's breeding population is affected by habitat conditions on Assateague Island as well as recruitment (immigration) from other nearby populations. Major breeding population increases over the past 16 years have followed storm and overwashed induced habitat changes and natural reductions in predators. Annual reproductive success is affected by predation pressure. Depending upon the year, major predators include the: red fox, fish crow, herring- and great black-backed gull. Raccoons and occasionally ghost crabs are additional minor predators. In 16 years of monitoring, annual reproductive success only exceeded 1.2 chicks fledged per breeding pair six times. A portion of the 1994-1995 population growth is attributed to recruitment of new breeding pairs from nearby Atlantic Coast areas.

2001 International Piping Plover Breeding Census - Maryland -



The 2001 International Piping Plover Breeding Census in Maryland

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Worcester	Assateague Island (North End) **	3	5/30	27	110	20.0	I,II B 1,8,11,12	I,II B 1,8,11,12	Yes	Yes	f
Worcester	Assateague Island (ORV Zone/Developed Area)	4	5/29	1	2	25.0	I B 1,11,12	I B 1,11	Yes	Yes	f/s(p)
Worcester	Ocean City *	1							No	No	m/p
Worcester	Skimmer Island	2	6/06	0	0	1.3	II E 1,4,8,12		No	No	s(p)
Total				28	112	46.3					

* = no official survey conducted

** kilometers reported include both ocean and bay side of the island surveyed

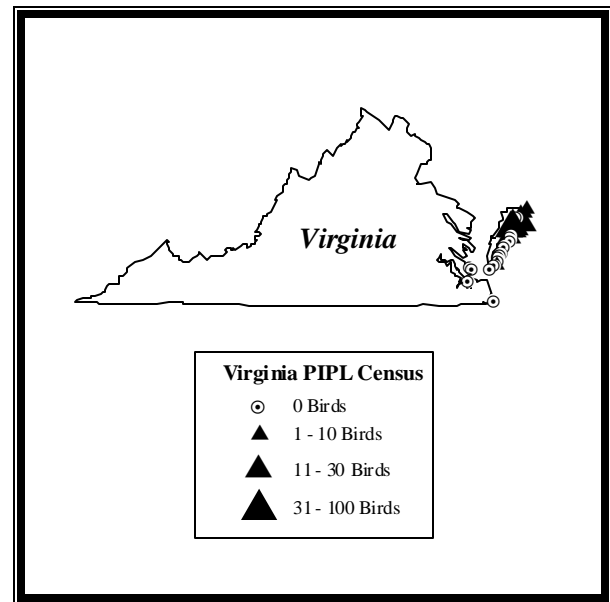
The 2001 International Piping Plover Breeding Census in Virginia

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This census was a thorough effort, covering 100% of known Piping Plover sites and 100% of known suitable habitat.

We did not census Pelican Island due to lack of nesting birds of any species prior to the census. It is a small, low-lying barrier island located between Assateague and Wallops Islands that is susceptible to frequent overwash. I do not believe that Pelican Island was censused in 1991 or 1996. Other areas with suitable habitat may include unknown sites on the western shore of the Chesapeake Bay. The fact that no Piping Plovers have been sighted at known western shore sites since 1997 suggests that very few, if any, plovers breed there. In the near future, I plan to survey the western shore for suitable plover breeding/migration stopover habitats.

During the 1991 census, 270 individuals were counted on 14/20 sites surveyed. In 1996, the number of individuals observed on 12/20 sites dropped to 155, a 43% decrease from 1991 (assuming uniform coverage between years). In 2001, 198 individuals were counted on 6/23 sites surveyed, which represents a 28% increase over the 1996 total and a 27% decrease from the 1991 total. Although historically most plover breeding activity has been confined to the northern barrier islands (Assateague – Cedar Islands), the occurrence of breeding plovers on the southern barrier islands (Parramore – Fisherman's Islands) has decreased considerably over the past 16 years (1986 – 2001). From



1986 – 1996, the number of breeding pairs on the southern islands ranged from 13 to 30. Since 1997, fewer than 10 pairs have been observed. Factors contributing to this decrease in nesting activity may include fewer areas with suitable nesting habitat (i.e., large sections of ocean-facing beaches on Hog, Cobb, Little Cobb, and Smith Islands are eroding and bordered by dense vegetation), less foraging habitat relative to the northern islands, high densities of raccoons on some of the islands such as Parramore, Hog and Smith Islands, and increasing numbers of laughing and herring gulls (although gulls are increasing on the northern islands as well). Curiously, the southern islands experience little to no human disturbance compared to Assateague, Metompkin and Cedar Islands, all of which are open to the public during the breeding season.

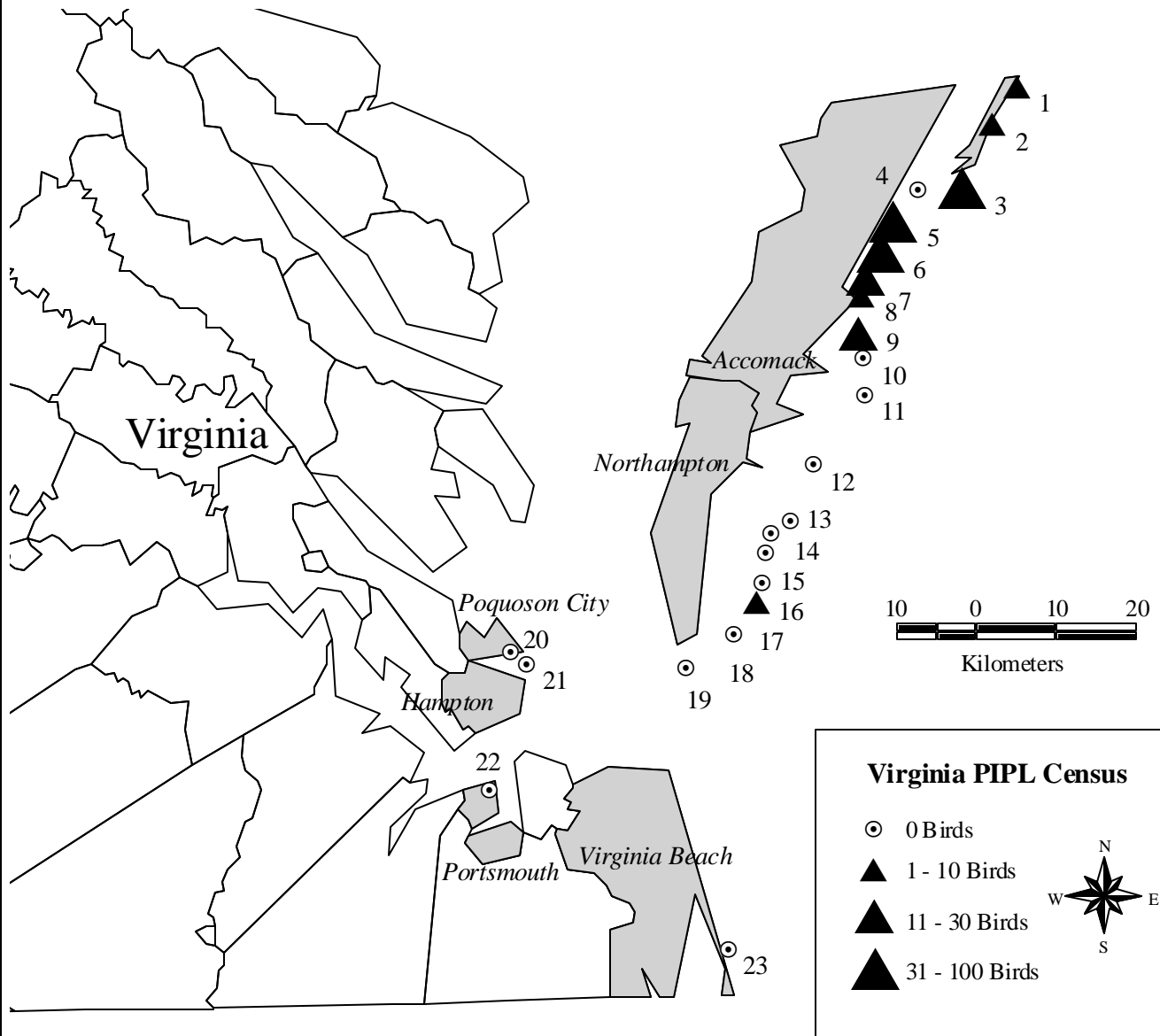
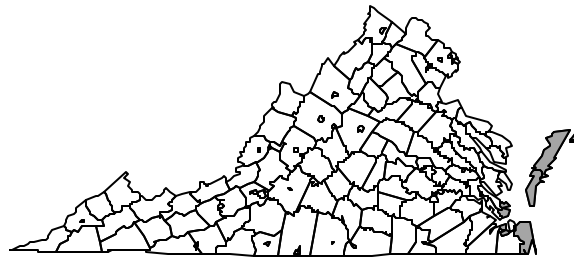
I believe the census results adequately reflect the actual Piping Plover population in Virginia for reasons stated above.

Some of the known factors affecting Piping Plovers in Virginia include nest/chick depredation by raccoons, foxes, gulls and other avian species; loss of nests as a result of ocean overwash during years with severe storms; and varying degrees of human disturbance, especially at sites on the western shore of the Chesapeake Bay. Overall, I contend that the

level of human disturbance on Virginia's seaside barrier islands is minimal compared to major plover breeding sites in other states and,

as such, I cannot say with any certainty that it has much of an impact in areas where the majority of Virginia's nesting occurs.

2001 International Piping Plover Breeding Census - Virginia -



The 2001 International Piping Plover Breeding Census in Virginia

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Accomack	Assawoman Island	5	6/02	22	44	8.1	I,III B 1,8,10,11,12	I B 1,10,11,12	Yes	Yes	f
Accomack	Cedar Island	9	6/04	13	25	6.0	I,II B 1,4,8,10,12	I,II B 1,8,10	Yes	Yes	f/s(p)/p
Accomack	Cedar Sandbar	8	6/04	2	4	1.6	I,II B 1,4,8,10,12	I B 1,10	Yes	Yes	s(p)/p
Accomack	Dawson Shoals	10	6/06	0	0	0.8	I B 1,4		No	Yes	p
Accomack	Hook Overwash Area, Assateague Island	3	5/31	24	44	6.4	I,II B 1,8,10,12	II B 1,8,10,12	Yes	Yes	f
Accomack	Metompkin Island (north half)	6	5/28	23	41	6.1	I,II B 1,8,10,12	I B 1,8,10	Yes	Yes	f/p
Accomack	Metompkin Island (south half)	7	5/27	17	29	6.0	I,II B 1,8,10,11,12	I B 1,8,10,11	Yes	Yes	p
Accomack	Parramore Island	11	5/29	0	0	15.0	I B 1,8,10,12		No	Yes	p
Accomack	Wallops Island	4	6/02	0	0	8.1	I B 1,10,12		Yes	Yes	f
Accomack	Wash Flats, Assateague Island	2	6/01	2	5	2.9	III B 11	III B 11	Yes	Yes	f
Accomack	Wild Beach, Assateague Island	1	5/30	1	2	11.3	I B 1,10,12	I B 1,10,12	Yes	Yes	f
Hampton	Grandview Nature Preserve	21	6/02	0	0	1.6	III,V E 1,10		Yes	Yes	m
Northampton	Cobb Island	13	5/30	0	0	11.1	I B 1,8,10,12		Yes	Yes	p
Northampton	Fishermans Island NWR	19	5/30	0	0	9.7	I B 1,8,10,11		Yes	Yes	f
Northampton	Hog Island	12	5/29	0	0	16.1	I B 1,8,10,12		Yes	Yes	p
Northampton	Little Cobb Island	14	5/30	0	0	1.1	I,II B 1,2,10,12		No	Yes	p
Northampton	Myrtle Island	17	5/31	2	4	6.0	I,II B 1,8,10,11,12	I B 11	Yes	Yes	p
Northampton	Ship Shoal Island	16	5/31	0	0	4.5	I,II B 1,8,10,11,12		Yes	Yes	p
Northampton	Smith Island	18	5/31	0	0	13.3	I B 1,10,12		Yes	Yes	p
Northampton	Wreck Island	15	5/30	0	0	6.9	I,II B 1,8,10,11,12		Yes	Yes	s(p)
Poquoson	Plum Tree Island NWR	20	6/02	0	0	4.8	II,III E 1,10		No	No	f
Portsmouth	Craney Island	22	6/03	0	0	32.2	III,V C 1,11		Yes	Yes	f
Virginia Beach	Back Bay NWR & False Cape State Park	23	5/29	0	0	14.5	I A 1		No	Yes	f/s(p)
Total				106	198	194.2					

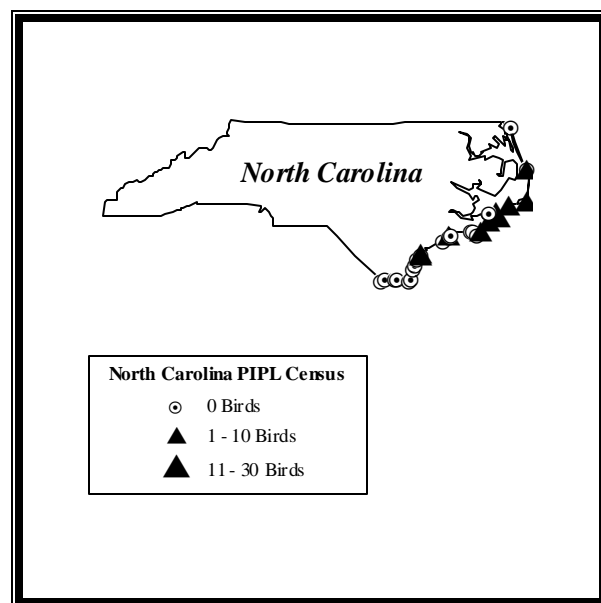
The 2001 International Piping Plover Breeding Census in North Carolina

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All known sites and suitable habitat were surveyed. Two sites were surveyed outside the census window late in June: Masonboro Island on June 18th and Pea Island National Wildlife Refuge on June 22nd.

Results (21 pairs) reflect a continued decline in the breeding population of Piping Plovers in North Carolina. The 1996 census revealed 34 pairs and the 1991 census resulted in 30 pairs. In other years, we have found as many as 57 pairs (1989), but results from 1998 through 2000 have shown marked declines each year. The best estimate for 2000 was 24 pairs.

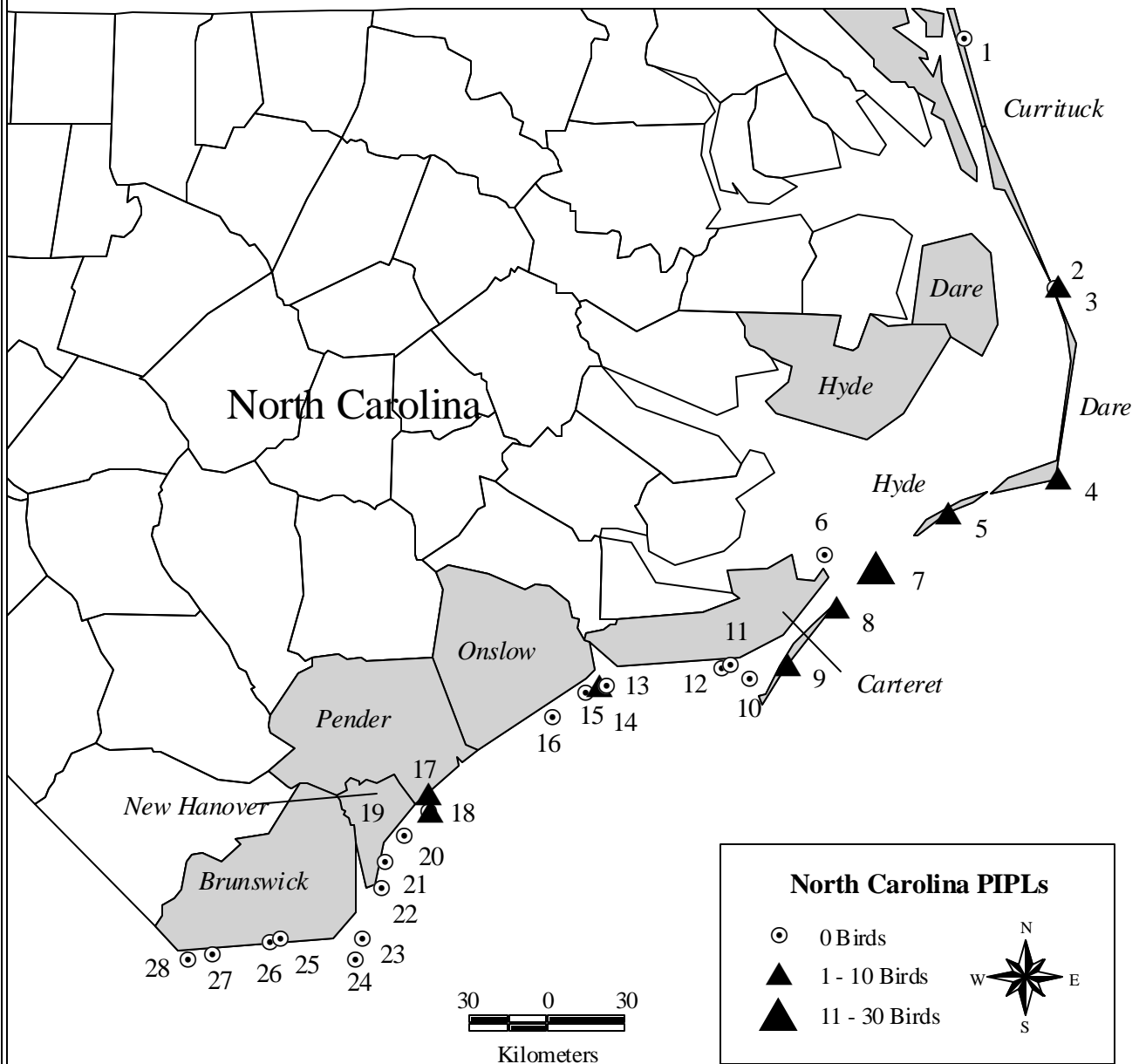
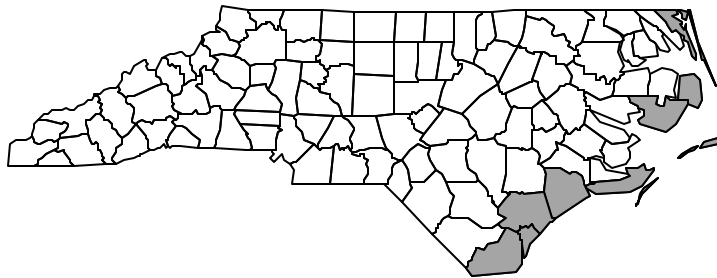
The 2001 census count of 21 pairs will slightly under-represent the total pairs in North Carolina. Two more pairs were tallied at Cape Hatteras National Seashore that were not paired during the census period. I believe the census period is a bit early for North Carolina plovers.



Since basically all Atlantic Coast migrating plovers pass through North Carolina (the southern end of the breeding range and the northern end of the winter range), the breeding activities seem to start a bit later than in other Atlantic Coast states. Perhaps North Carolina breeders wait for competing migrants to vacate the North Carolina breeding grounds, which generally doesn't occur until late May.

Foxes are now found on Hatteras Island, which may be causing problems for plovers. Ghost crabs continue to predate both eggs and young. Low productivity has affected the breeding Piping Plover numbers in North Carolina. Productivity has averaged only 0.48 chicks/pair over the last 12 years.

2001 International Piping Plover Breeding Census - North Carolina -



The 2001 International Piping Plover Breeding Census in North Carolina

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Brunswick	Bald Head Island	24	5/30	0	0	8.1	I,V B 1		Yes	Yes	p
Brunswick	Bird Island & Sunset Beach	28	5/29	0	0	4.8	I,II B 1,2		Yes	Yes	p
Brunswick	Holden Beach	26	6/01	0	0	7.7	I B 1,8,12		Yes	Yes	m
Brunswick	Oak Island (Long Beach)	25	5/28	0	0	8.1	I B 1,8,12		Yes	Yes	m
Brunswick	Ocean Isle Beach	27	5/30	0	0	2.7	I,II B 1,2		Yes	Yes	p
Carteret	Bogue Inlet	13	5/25	0	0	1.6	I,II B 1,10,12		Yes	Yes	m
Carteret	Cedar Island NWR	6	6/02	0	0	11.3	III A 1,6,10,12		Yes	No	f/s(p)/p
Carteret	Fort Macon State Park	12	6/02	0	0	3.2	I,II B 1		Yes	Yes	s(p)
Carteret	Middle Core Banks (north of New Drum Inlet)	8	6/04	2	4	1.6	I,II B 1,8,10,12	I B 8,10,12	Yes	Yes	f
Carteret	North Core Banks (Portsmouth Island)	7	6/05	9	18	30.6	I B 1,8,10,12	I B 8,10	Yes	Yes	f
Carteret	Rachel Carson Estuarine Research Reserve (Bird Shoal)	11	6/01	0	0	2.4	III B 1,8,12		Yes	Yes	s(p)
Carteret	Shackleford Banks, Cape Lookout N.S.	10	6/04	0	0	14.5	I,II B 1,8,10		Yes	Yes	f
Carteret	South Core Banks, Cape Lookout N.S.	9	6/03	4	8	40.3	I,II B 1,2,4,8,10	I B 8	Yes	Yes	f
Currituck	Currituck Outer Banks	1	5/30	0	0	17.7	I B 1		Yes	Yes	f/s(p)
Dare	Bodie Island Spit, Cape Hatteras N.S.	2	6/03	0	0	8.1	I,II B 1,2,8,12		No	Yes	f
Dare	Hatteras Island, Cape Hatteras N.S.	4	6/03	2	6	56.5	I,II,III B 1,2,11	I B 1,11	Yes	Yes	f
Dare	Pea Island NWR	3	6/22	1	2	2.4	I B 1	I B 1	Yes	Yes	f
Hyde	Ocracoke Island, Cape Hatteras N.S.	5	6/03	0	2	22.6	I,II B 11	II B 11	Yes	Yes	f
New Hanover	Carolina Beach, north end	22	5/30	0	0	3.2	I,II A,F 1,8,12		Yes	Yes	m/p
New Hanover	Figure Eight Island	19	6/09	0	0	8.1	I,II B 1,8,11		Yes	Yes	m
New Hanover	Fort Fisher SRA	23	5/30	0	0	24.2	I,II A,F 1,8,12		Yes	Yes	s(p)
New Hanover	Masonboro Island	21	6/18	0	0	12.9	I B 1,10		Yes	Yes	s(p)
New Hanover	Wrightsville Beach	20	6/02	0	0	1.6	I B 1		No	Yes	m
Onslow	Bogue Inlet Shoal	14	6/01	0	1	0.4	I D 4	I D 4	No	No	s(p)
Onslow	Hammocks Beach State Park, Bear Island	15	6/02	0	0	4.8	I B 1,12		Yes	Yes	s(p)
Onslow	Onslow Beach	16	5/31	0	0	17.7	I B 1		Yes	Yes	f
Pender	Lea & Hutaff Islands	18	6/01	2	5	6.5	I B 1,12	I B 1	Yes	Yes	p
Pender	Topsail Beach	17	6/03	1	2	2.6	I,III B,F 1,4,11	III B,F 1,4,11	Yes	Yes	s(p)/p
Total				21	48	326.3					

The 2001 International Piping Plover Breeding Census in South Carolina

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Plovers are very rare breeders in South Carolina. Only one site was surveyed during the 2001 International Piping Plover Breeding Census – Waites Island and no birds were observed.

The island is located on the upper north coast of

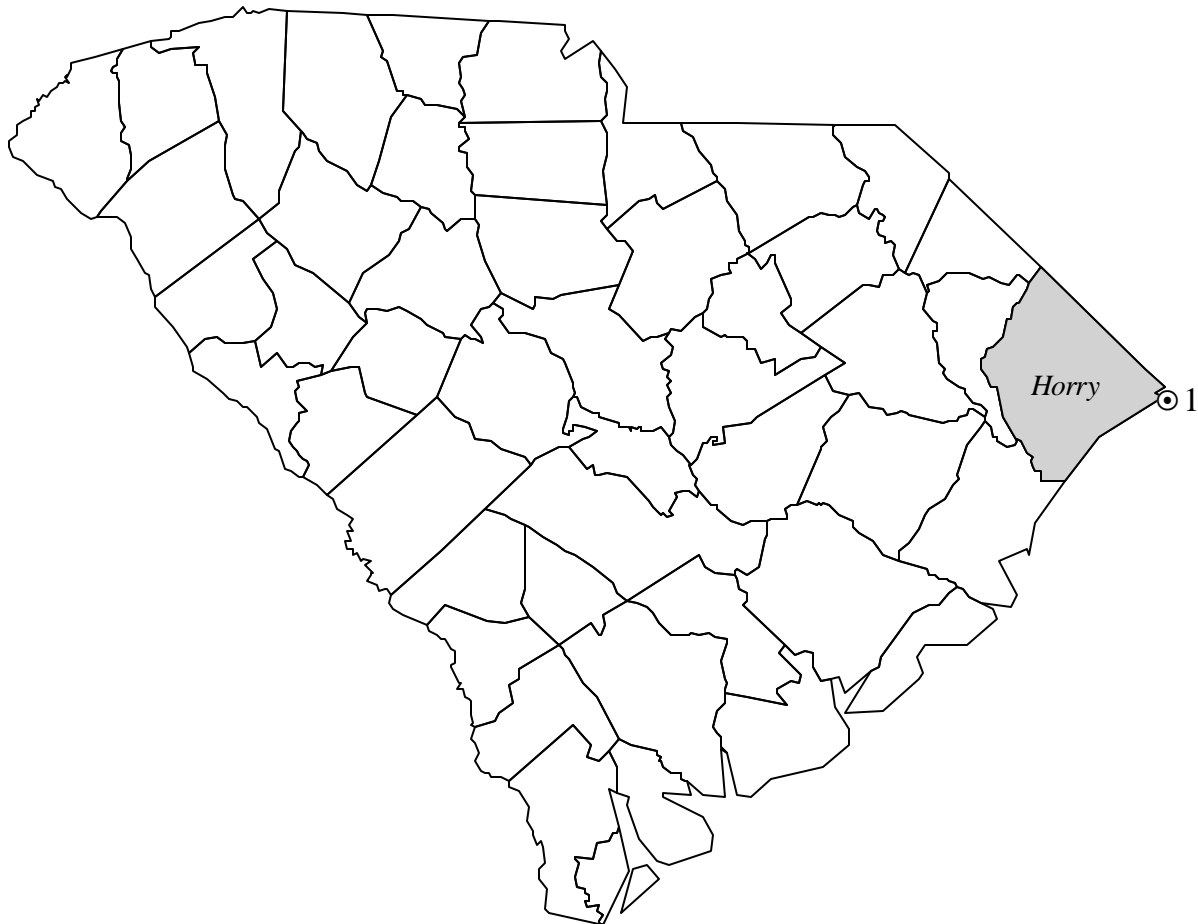


South Carolina, adjacent to North Carolina. One pair was seen on the island in 1991, but none have been observed since.

Summarized by C. Ferland

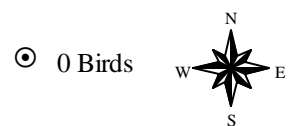
2001 International Piping Plover Breeding Census - South Carolina -

South Carolina



50 0 50
Kilometers

South Carolina PIPL Census



The 2001 International Piping Plover Breeding Census in South Carolina

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Horry	Waties Island	1	n.r.	0	0	n.r.	Not specified		Yes	Yes	p
Total				0	0	n.r.					

n.r. = not reported

The 2001 International Piping Plover Breeding Census: Great Lakes

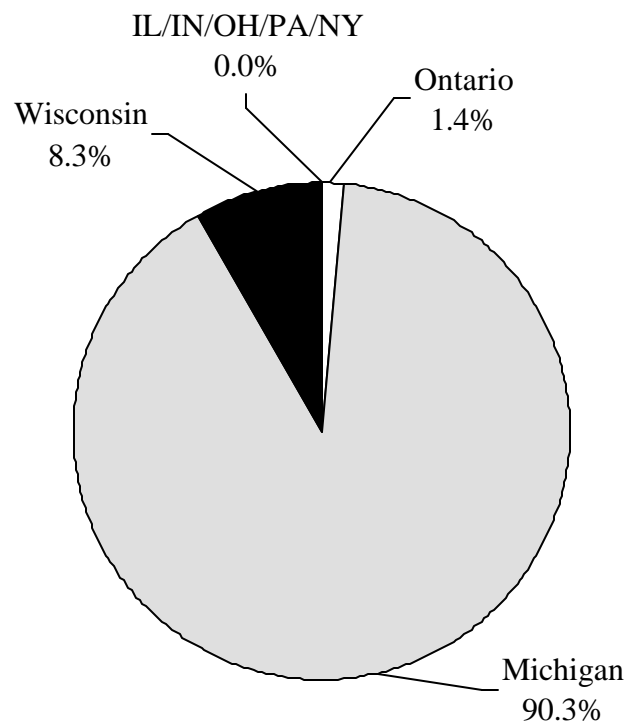
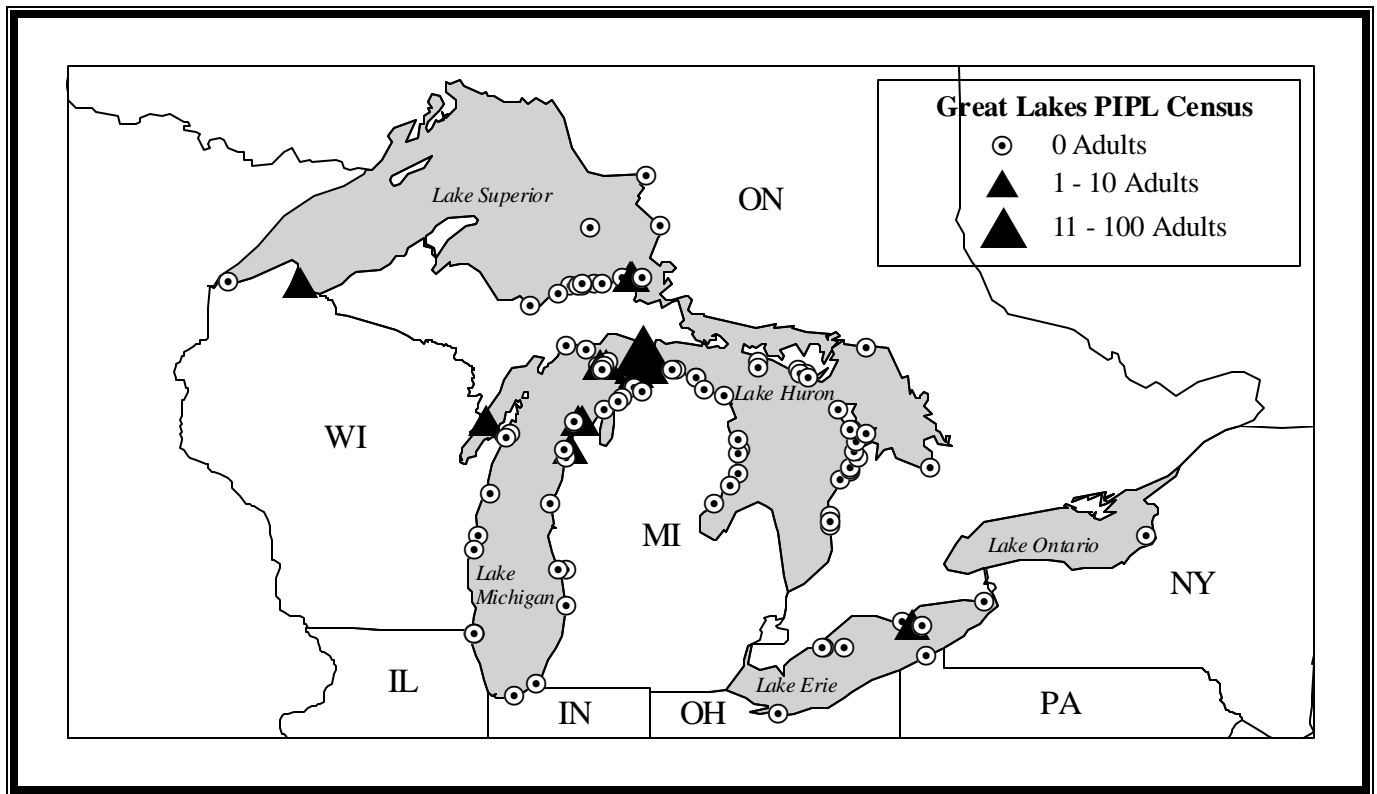


Figure 8. Great Lakes Piping Plover Distribution

The 2001 International Piping Plover Breeding Census Great Lakes Overview



The 2001 International Piping Plover Census of the breeding population of the Great Lakes Piping Plover encompassed seven states and one Canadian province. A total of 108 sites were surveyed during the 3-16 June 2001 census period. Within the United States portion of the Great Lakes breeding range, known and/or potential breeding habitat was surveyed in Michigan, Illinois, Indiana, Ohio, Pennsylvania, New York and Wisconsin. A number of sites outside of the current breeding areas in Michigan and Wisconsin were surveyed for the first time and included the recently designated critical habitat for the Great Lake Piping Plover (USFWS May 7, 2001). Unoccupied critical habitat areas are generally considered to contain the best potential habitat remaining within the basin. In Canada, surveys were conducted at 37 sites within the Great Lakes region of Ontario. This represented a significant increase in survey effort, compared to the 17 sites included in the 1996 census. With the inclusion of the

additional survey locations in Ontario and the critical habitat areas outside of Michigan and Wisconsin, nearly all historic breeding locations that still contain plover habitat were surveyed in 2001.

The 2001 International Piping Plover Breeding Census in the Great Lakes recorded a total of 72 individual birds. This represents an increase of 50% over the 1996 census results and an 80% increase over the initial census results from 1991. As recorded in previous census years, the vast majority of Piping Plover observations were recorded in Michigan. Within this core breeding area, a total of 27 pairs of Piping Plovers were observed. This was lower than the number recorded during the annual monitoring program in Michigan, (30 breeding pairs). The 27 breeding pairs recorded in 2001 represents a 28.6% increase from the 1996 survey results of 21 breeding pairs.

In Wisconsin, a total of six Piping Plovers, consisting of two breeding pairs and two individual sightings were recorded. Previous census efforts in Wisconsin had resulted in only a single observation in 1991 and none in 1996. No Piping Plovers were observed during the course of completing the census in the other five Great Lakes states. These sites, which are subject to varying levels of annual monitoring during the migratory and breeding season, are known to support migrating Piping Plovers, but no records of breeding plovers were collected in 2001.

Surveys of 37 sites in the Ontario Great Lakes area recorded only a single individual. This lone male was observed for several weeks at a location in Eastern Lake Erie. Previous International Census efforts in Ontario Great Lakes also reported just one individual in 1996.

Water levels in the Great Lakes over the past two years have approached historic lows. This

has resulted in greater amounts of potential Piping Plover habitat for nesting and migratory use. As such, available habitat does not appear to be a limiting factor at this time. Within the core breeding area in Michigan, Great Lakes plover numbers continue to increase. Productivity rates observed in 2001, were the highest recorded since annual monitoring began. With these increases, larger numbers of potential breeding pairs are anticipated in the Great Lakes. Several factors continue to threatened recovery of the breeding population, however, including human disturbance and predation.

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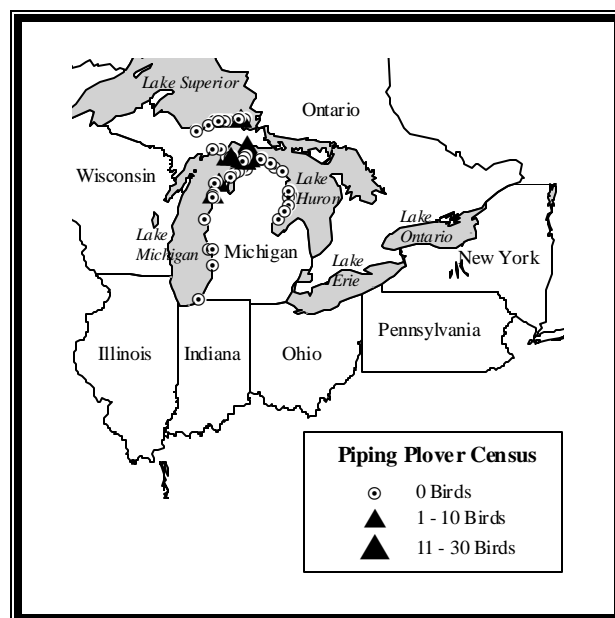
The 2001 International Piping Plover Breeding Census in Michigan, Illinois, Indiana, Ohio, Pennsylvania, and New York

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All known and/or potential breeding habitat for the Great Lakes population of the Piping Plover in Michigan, Illinois, Indiana, Ohio, Pennsylvania, and New York was surveyed at least once during the 3 to 16 June 2001 census period. A total of 67 sites were surveyed in the six state area, including 58 sites in Michigan. Sites selected for survey in Michigan were based primarily on the results from the 1996 International Piping Plover Breeding Census. These sites included nearly all of the currently known breeding locations in the state. Four sites surveyed in 1996 were not included in the 2001 census due to lack of access.

Locations selected for survey in the other five Great Lakes states were based on the recently designated critical habitat for the Great Lakes Piping Plover (USFWS May 7, 2001). These sites, which were not surveyed in 1996, are considered the best potential Piping Plover habitat outside of Michigan and Wisconsin – states where the species is currently found.

Results of the 2001 International Census were nearly equivalent to the number recorded during

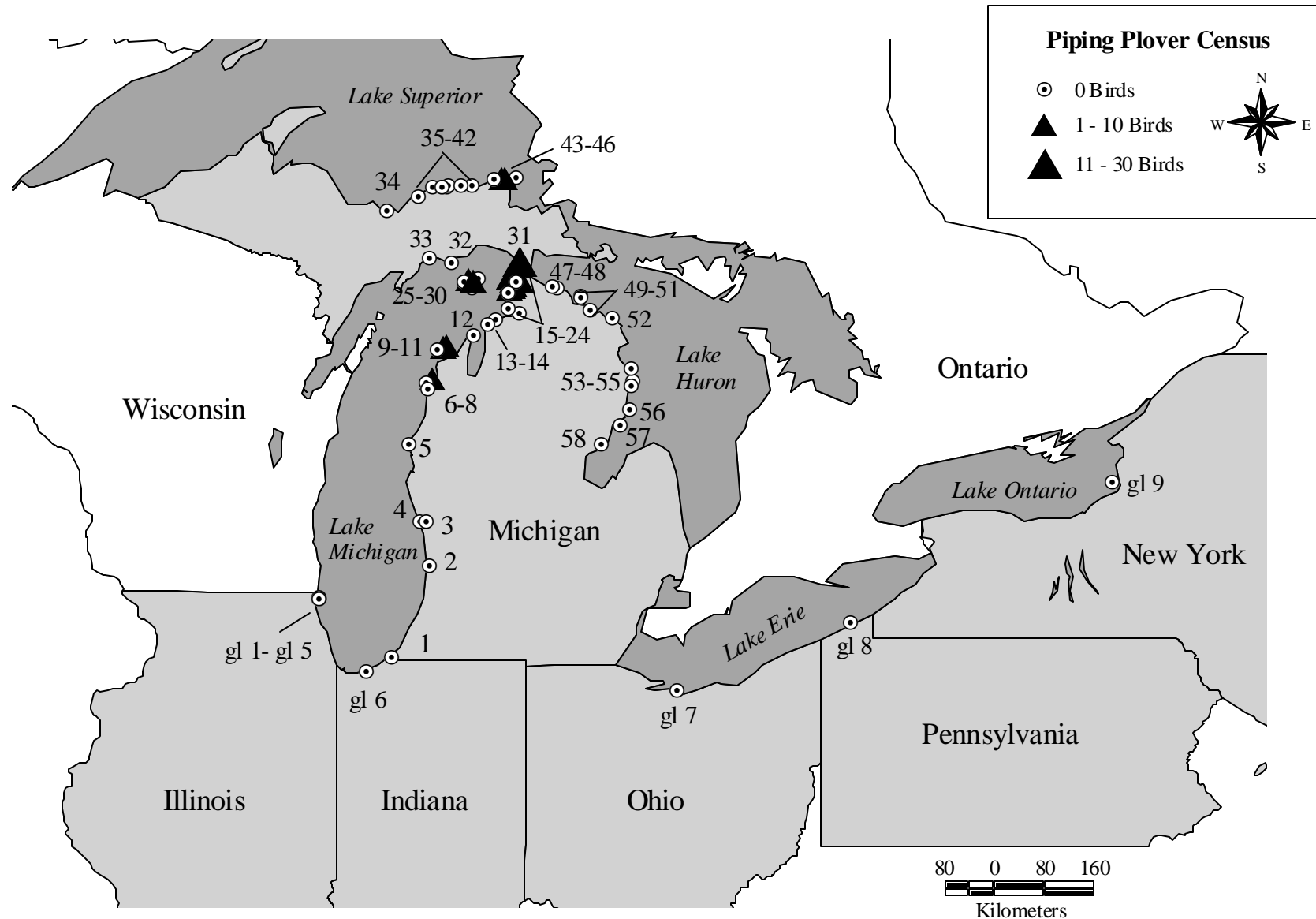


annual monitoring in the Great Lakes. A total of 27 pairs of Piping Plovers were observed in Michigan during the census while annual monitoring efforts reported a total of 30 breeding pairs. The 27 breeding pairs recorded in 2001 represents a 28.6% increase from the 1996 survey results of 21 breeding pairs.

No breeding Piping Plovers were observed during the census in the other five Great Lakes states (results from Wisconsin are reported separately). However, observations of plovers during the migratory period were noted from a small number of these sites.

Water levels in the Great Lakes over the past two years have approached historic lows. This has resulted in greater amounts of potential Piping Plover habitat for nesting and migratory use. Recent increases in Piping Plover productivity rates in the Great Lakes are anticipated to result in larger numbers of potential breeding pairs.

2001 International Piping Plover Breeding Census - Michigan/Illinois/Indiana/Ohio/Pennsylvania/New York -



The 2001 International Piping Plover Census in Michigan/Illinois/Indiana/Ohio/Pennsylvania/New York

ST	COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
MI	Alcona	Black River Island	53	6/21	0	0	0.4	III,VI E 6,10,13		No	Yes	n.r.
MI	Alcona	Harrisville State Park	55	6/06	0	0	0.8	VI A 1		No	Yes	s(p)
MI	Alcona	Sturgeon Point	54	6/06	0	0	0.4	VI A 1,2,10,13		Yes	Yes	m
MI	Alger	12 Mile Beach to Beaver Creek	35	6/07	0	0	6.5	V,VI A 1		No	Yes	f
MI	Alger	Au Train River Mouth	34	6/04	0	0	2.4	V,VI A 1		No	Yes	s(p)/p
MI	Alger	Grand Marais (East Bay)	40	6/04	0	0	3.2	V,VI A 1,4,6		Unk	Yes	p
MI	Alger	Grand Marais (West Bay)	37	6/14	0	0	2.4	VI A 1,6		Unk	Yes	f/p
MI	Alger	Hurricane River to 12 Mile Beach Co.	36	6/13	0	0	3.2	V,VI A 1,6		No	Yes	f
MI	Alger	Sable Falls	38	6/13	0	0	4.8	V,VI A 1,6		No	Yes	f
MI	Alger	Sable Lake	39	6/08	0	0	0.8	VI A 1		No	Yes	f
MI	Arenac	Big Charity Island, Saginaw Bay	58	6/21	0	0	5.6	II,VI E 1,2,6,11		No	Yes	f/p
MI	Benzie	Elberta Beach	6	6/13	0	0	1.5	VI A 1		No	Yes	m
MI	Benzie	Point Betsie	7	6/13	0	0	1.2	VI A 1,6,12		No	Yes	p
MI	Benzie	South of Platte Point	8	6/14	3	6	3.0	VI A 1,2,12	VI A 2	No	Yes	f
MI	Berrien	New Buffalo Harbor	1	6/13	0	0	0.8	VI A 1		No	Yes	m
MI	Charlevoix	Bonner's Bluff/Landing, Beaver Island	27	6/07	0	0	3.7	VI E 1,11,12		No	Yes	p
MI	Charlevoix	Donegal Bay/McCauley Point, Beaver Island	26	6/07	1	2	3.2	VI E 1,6,11,12	VI E 1	Yes	Yes	s(p)/m/p
MI	Charlevoix	Fisherman's Island State Park	13	6/06	0	0	1.4	VI A 1,11,12,14		Yes	Yes	s(p)
MI	Charlevoix	High Island, NE spit	29	6/07	0	2	2.1	VI E 1,2,6,12	VI E 2,6	Unk	Unk	s(p)
MI	Charlevoix	High Island, NW side	30	6/07	0	0	1.4	VI E 1,11,12		Yes	Yes	s(p)
MI	Charlevoix	McFaddin Point/Green's Bay, Beaver Island	25	6/07	0	0	1.0	VI E 1,11,12		Yes	Yes	s(p)
MI	Charlevoix	North Point	14	6/06	0	0	1.0	VI A 1,11,12		No	Yes	m/p
MI	Charlevoix	Point Lookout, Beaver Island	28	6/14	0	0	1.0	VI E 1,6,11		No	Yes	p
MI	Cheboygan	Cheboygan State Park	47	6/13	0	0	1.6	VI A 1		Yes	Yes	s(p)
MI	Cheboygan	Grass Bay	48	6/09	0	0	2.4	VI A 1,11,12		Yes	Yes	p
MI	Chippewa	De Tour Beach	50	6/07	0	0	3.2	VI A 1,12		No	Yes	s(p)
MI	Chippewa	De Tour Township	49	6/12	0	0	3.2	VI A 11		No	Yes	p
MI	Chippewa	Vermilion Beach	44	6/04	2	4	2.4	VI A 1,6	Not specified	Yes	Yes	p
MI	Chippewa	Weatherhog Beach	45	6/04	1	2	2.4	VI A 1,6	Not specified	Yes	Yes	s(p)
MI	Chippewa	Whitefish Point	46	6/04	0	0	2.4	VI A 6		Yes	Yes	f
MI	Emmet	Bliss Township Beach	20	6/08	1	2	2.7	VI A 1	VI A 1	No	No	s(p)/m
MI	Emmet	Cross Village Central	18	6/08	1	2	2.7	VI A 1,6,11	Not specified	Yes	Yes	m/p

The 2001 International Piping Plover Census in Michigan/Illinois/Indiana/Ohio/Pennsylvania/New York (Continued)

ST	COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
MI	Emmet	Cross Village North	19	6/08	1	2	1.8	VI A 1	VI A 1	Yes	Yes	p
MI	Emmet	Cross Village South	17	6/08	0	0	2.0	VI A 1,11,12		Yes	Yes	p
MI	Emmet	Petosky State Park	15	6/08	0	0	1.6	VI A 1,12		No	Yes	s(p)
MI	Emmet	Sturgeon Bay, Wilderness State Park	21	6/04	0	0	4.0	VI A 1,6		Yes	Yes	s(p)
MI	Emmet	Temperance Island, Wilderness State Park	23	6/07	2	4	2.4	VI E 6,10,11	VI E 6,10	No	Yes	s(p)
MI	Emmet	Thorne Swift Nature Preserve	16	6/08	0	0	0.5	VI A 1,6,12		No	Yes	p
MI	Emmet	Waugoshance Island, Wilderness State Park	24	6/07	3	6	2.4	VI E 10,11	VI E 10,11	Unk	Unk	s(p)
MI	Emmet	Waugoshance Point, Wilderness State Park	22	6/07	6	13	4.8	VI A 6,11	VI A 6,11	Unk	Yes	s(p)
MI	Iosco	Au Sable River Mouth/Lake Huron Beach	56	6/06	0	0	0.4	VI A 1		No	Yes	s(p)
MI	Iosco	Tawas Piont, Tawas Point State Park	57	6/15	0	0	4.0	III A 2		Yes	Yes	s(p)
MI	Leelanau	Cathead Bay, Leelanau State Park	12	6/11	0	0	2.0	VI A 1,11,12		Yes	Yes	s(p)/p
MI	Leelanau	Dimmick's Point, North Manitou Island	11	6/03	2	4	2.6	VI E 1	VI E 1	Yes	Yes	f
MI	Leelanau	Donner's Point, North Manitou Island	10	6/06	1	2	4.8	VI E 1,6,10,12	VI E 1	No	Yes	f
MI	Leelanau	South Manitou Isl., Sleeping Bear Dunes N.L.	9	5/31	0	0	4.8	II,VI E 1,6		Yes	Yes	f
MI	Luce	Crisp Point	43	6/04	0	0	6.5	VI A 1,6,12		Yes	Yes	s(p)
MI	Luce	Deer Park	42	6/03	0	0	12.9	VI A 1,6,12		Yes	Yes	s(p)
MI	Luce	Lake Superior State Forest Campground	41	6/03	0	0	4.8	VI A 1,6,12		No	Yes	s(p)
MI	Mackinac	Pt. Aux Chenes	31	n.r.	3	14	4.8	III,VI A 1,12	III A 1	Yes	Yes	f
MI	Mason	Ludington State Park	5	6/12	0	0	4.8	VI A 1		Yes	Yes	s(p)
MI	Muskegon	Muskegon South - City Beach	3	6/05	0	0	1.9	VI A 1		No	No	m
MI	Muskegon	Muskegon State Park	4	6/13	0	0	3.2	VI A 1		Yes	Yes	s(p)
MI	Ottawa/Allegan	Ottawa Beach and Macatawa	2	6/13	0	0	1.6	VI A 1		No	Yes	s(p)/p
MI	Presque Isle	Black Point/Thompson Bay Harbour	52	6/09	0	0	1.5	VI A 1,6,11,12		No	Yes	s(p)
MI	Presque Isle	Hoeft State Park	51	6/09	0	0	1.0	VI A 1,12		No	No	s(p)
MI	Schoolcraft	Manistique River Mouth	33	6/05	0	0	6.5	VI A 1,11,12		Yes	Yes	m/p
MI	Schoolcraft	Seul Choix Point	32	6/05	0	0	3.2	VI A 11		No	Yes	p
IL	Lake	ComEd Fishing Pier to Waukegan Pier	gl 5	6/08	0	0	1.9	VI A 1,10,12		No	No	s(p)/p
IL	Lake	Illinois Beach State Park - North Unit	gl 1	6/08	0	0	1.9	VI A 1,10,12		No	No	s(p)/p
IL	Lake	Illinois Beach State Park - South Unit	gl 3	6/08	0	0	1.9	VI A 1,10,12		No	No	s(p)/p
IL	Lake	Manville Beach	gl 4	6/08	0	0	1.9	VI A 1,10,12		No	No	s(p)/p
IL	Lake	Nuclear Power Plant	gl 2	6/08	0	0	1.9	VI A 1,10,12		No	No	s(p)/p
IN	Porter	Indiana Dunes National Lakeshore	gl 6	6/12	0	0	6.5	VI A 1,12		No	No	f/s(p)

The 2001 International Piping Plover Census in Michigan/Illinois/Indiana/Ohio/Pennsylvania/New York (Continued)

ST	COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
NY	Oswego/Jefferson	Eastern Lake Ontario Dune System	gl 9	n.r.	0	0	27.4	VI A 1,6		No	No	s(p)/m/p
OH	Erie	Sheldon Marsh State Park Nature Preserve	gl 7	6/03	0	0	1.6	III F 2		No	No	s(p)
PA	Erie	Presque Isle State Park	gl 8	6/10	0	0	6.5	VI F 1,2,4,12		No	No	s(p)
Total					27	65	217.8					

n.r. = not reported

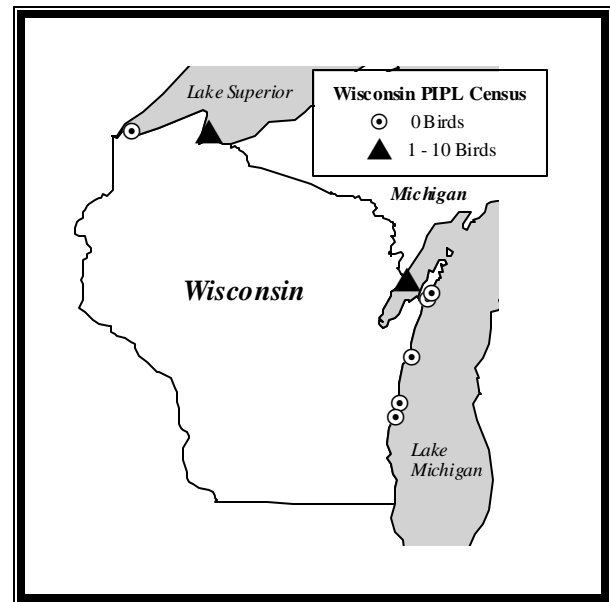
unk = unknown

The 2001 International Piping Plover Breeding Census in Wisconsin

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The 2001 International Census resulted in 2 pairs of Piping Plovers – an increase over the single pair found in the 1996 Census.

Most of the likely Piping Plover sites and suitable habitat were censused in Wisconsin during the 2001 Census. However, some areas could have been more thoroughly surveyed: Outer Island, Apostle Islands National Lakeshore was checked only once early in the season and Michigan Island, Apostle Islands National Lakeshore was checked periodically by National Park Service personnel but was not formally censused. Michigan Island has been designated as critical habitat and deserves inclusion in future census efforts. Also, Interstate Island was not censused but was visited by tern researchers who reported no plovers. Additionally, the northern portion of Point Beach was not censused, but had been periodically checked by park personnel, who



reported no plovers. The beach does have relatively high levels of human disturbance.

I believe these numbers accurately represent Piping Plover numbers in Wisconsin in 2001. We have an excellent birding community who would likely inform us of any other birds observed. It is always possible that a few birds escaped detection, but numbers are undoubtedly low.

Water levels on Lake Michigan have probably contributed to the current low numbers of Piping Plovers in Wisconsin. The lake had an extended period of high water prior to the current low levels. The species has also been adversely affected by human disturbance on beaches as well as abundant predators along shorelines.

2001 International Piping Plover Breeding Census - Wisconsin -



Wisconsin PIPL Census

⊙ 0 Birds

▲ 1 - 10 Birds



50 0 50
Kilometers

The 2001 International Piping Plover Census in Wisconsin

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Ashland	Long Island (sand cut)	2	6/15	1	4	9.7	VI B 1,2,12	VI B 1	Yes	Yes	f
Door	Lilly Bay	5	6/14	0	0	1.6	VI A 1,2,12		Yes	Yes	s(p)/p
Door	Whitefish Dunes State Park	4	6/15	0	0	1.6	VI A 1,2,12		Yes	Yes	s(p)/p
Douglas	Wisconsin Point	1	6/17	0	0	6.0	VI A 1,2,10		Yes	Yes	m
Manitowoc	Point Beach	6	6/12	0	0	3.7	VI A 1		Yes	Yes	s(p)
Marinette	Seagull Bar (Marinette)	3	6/13	1	2	1.8	VI A 1,2,4,10	IV A 4	Yes	Yes	s(p)/m
Ozaukee	Harrington Beach State Park	8	6/12	0	0	1.6	VI A 1,6		Yes	Yes	s(p)
Sheboygan	Kohler-Andrae State Park	7	6/08	0	0	3.2	VI A 12		Yes	Yes	s(p)
Total				2	6	29.3					

The 2001 International Piping Plover Breeding Census in Ontario

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The 2001 International Piping Plover Breeding Census in Ontario involved considerably more effort to census suitable habitat than in previous census attempts. In all, 37 sites were censused compared to 17 in 1996. All of the additional effort was directed at the Ontario Great Lakes area. Record low water levels exposed substantial suitable habitat for Piping Plovers, particularly at historic breeding locations. However, the results were disappointing. Only one single male was present at Long Point on Lake Erie and another was observed at Windy Point on Lake of the Woods.

The level of survey effort on the Ontario Great Lakes covered virtually all historic breeding



locations as well as any additional potential breeding locations. Many of these locations appear to have excellent habitat. One additional location, Presqu'île Provincial Park on Lake Ontario, will be included in future surveys.

While only two plovers were spotted in Ontario during the census period, other birds were reported during the remainder of the breeding season. The Ontario portion of Lake of the Woods typically is home to one or two breeding pair annually, however, this year had record high water levels on Lake of the Woods (50-year high) and no pairs were seen. The Ontario population is around six birds.

While there was excellent habitat on the Ontario Great Lakes this year, there simply are no birds available to populate these areas. The lone male remained at Long Point for a number of weeks defending territory and calling.

2001 International Piping Plover Breeding Census - Ontario -



The 2001 International Piping Plover Breeding Census in Ontario

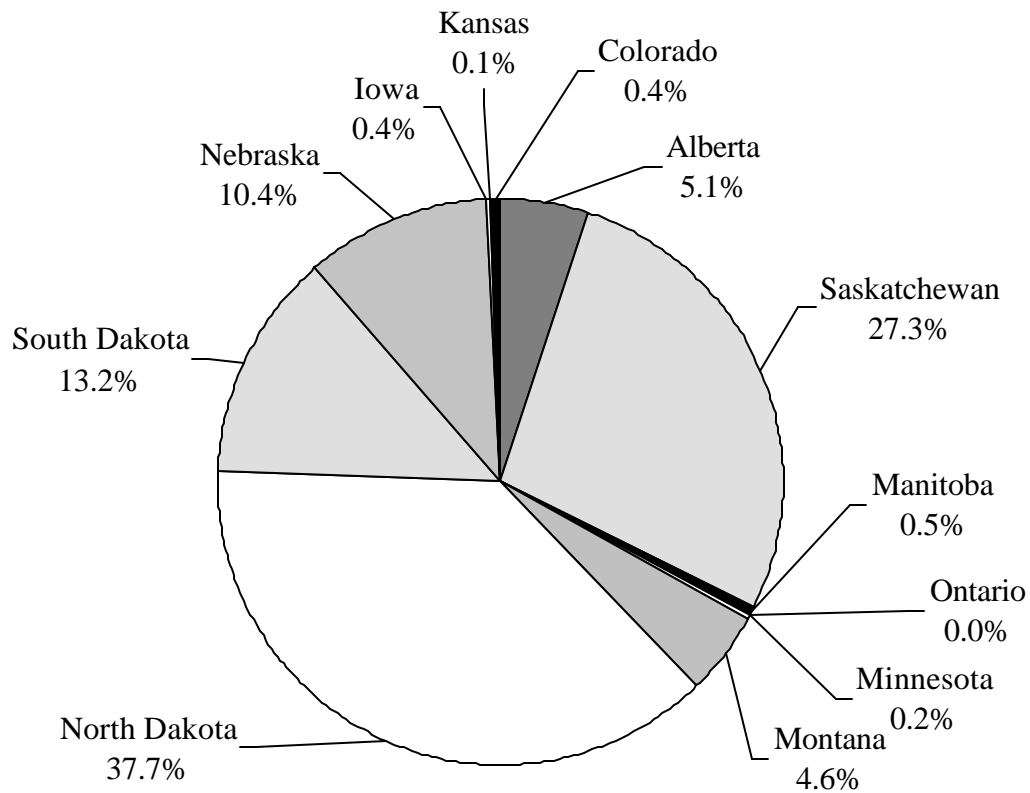
LAKE	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Lake Erie	Hahn Woods to Hastings Drive	34	6/12	0	0	5.7	VI A 1,2,6,10,12,14		No	No	f/p
Lake Erie	Long Point	35	6/07	0	1	7.5	VI F 1,2,6,10	VI F 1,2,6	Yes	Yes	f/p
Lake Erie	Long Point (Courtright Ridge)	36	6/20	0	0	20.0	VI A,F 1,2,6		Yes	Yes	f
Lake Erie	Point Abino (west side)	37	6/13	0	0	1.5	VI A 1,12,14		No	No	p
Lake Erie	Rondeau Provincial Park	33	6/17	0	0	2.4	VI A 2		No	No	s(p)
Lake Erie	South Beach, Rondeau Provincial Park	31	6/11	0	0	3.0	VI D,F 1,2,6,10,12		No	No	s(p)
Lake Erie	Southeast Beach, Rondeau Provincial Park	32	6/11	0	0	1.0	VI F 1,2,6,12		No	No	s(p)
Lake Huron	Baie du Dore	25	6/06	0	0	1.0	II,VI A 1,10		No	No	m
Lake Huron	Carter Bay	12	6/06	0	0	0.9	V,VI E 1,11,12		No	No	s(p)/p
Lake Huron	Chief's Point	20	6/10	0	0	6.0	VI A,G 1		No	No	m
Lake Huron	Desert Point, Great Duck Island	9	6/07	0	0	1.2	VI E 1,6,11		No	Yes	p
Lake Huron	Dorcas Bay, Singing Sands	15	6/16	0	0	2.0	II,VI A,G 1,10,12		No	No	f
Lake Huron	Golf Course Road north to Point Farms PP	29	6/05	0	0	2.3	VI A 1		No	No	p
Lake Huron	Golf Course Road south to Sunet Beach	28	6/05	0	0	1.3	VI A 1		No	No	p
Lake Huron	Hope Bay	18	6/13	0	0	2.0	II,VI A 1,6,10		No	No	m
Lake Huron	Horseshoe Bay, Great Duck Island	14	6/07	0	0	0.4	VI E 1,10,11		No	Yes	p
Lake Huron	Michael's Bay	13	6/06	0	0	0.8	V,VI E 1,10		No	No	s(p)
Lake Huron	Miramichi Bay	23	6/08	0	0	2.0	II,VI A 1		No	No	m
Lake Huron	Myles Bay	17	6/13	0	0	2.0	II,VI A 1,10		No	No	s(p)
Lake Huron	Port Albert north to Mid Huron Beach Road	27	6/04	0	0	3.3	VI A 1		No	No	p
Lake Huron	Port Albert south to Brindley Beach Road	30	6/05	0	0	5.5	VI A 1		No	No	p
Lake Huron	Port Elgin	24	6/06	0	0	6.0	VI A 1,10		No	No	m
Lake Huron	Providence Bay	10	6/08	0	0	2.3	II E 1,10,12		No	No	m/p
Lake Huron	Red Bay/Howdenvale	19	6/13	0	0	3.0	II,VI A 1,10		No	No	m
Lake Huron	Sauble Beach	21	6/10	0	0	6.0	VI A 1,12		No	No	m
Lake Huron	Southampton	22	6/08	0	0	5.0	VI A 1		No	No	m
Lake Huron	Stokes Bay	16	6/13	0	0	3.0	II,VI A 1,10		No	No	m
Lake Huron	Timber Bay	11	6/06	0	0	0.3	V,VI E 1,10,12		No	No	p
Lake Huron	Wasaga Beach Provincial Park	26	n.r.	0	0	2.5	V,VI B 1,2		No	Yes	n.r.
Lake Huron	West Duck Island (NE Shore)	8	6/07	0	0	1.1	VI E 1,6,10		No	Yes	s(p)
Lake Superior	Agawa Bay, Lake Superior Provincial Park	7	6/16	0	0	3.0	III,VI A 1,6,12,13		No	No	s(p)

The 2001 International Piping Plover Breeding Census in Ontario (Continued)

LAKE	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Lake Superior	Caribou Island	5	6/13	0	0	7.6	VIE 1,11,12		No	Yes	p
Lake Superior	Driftwood Beach, Michipicoten Post PP	6	6/14	0	0	2.2	VI A 1,6,13		No	No	s(p)
Lk of the Woods	Big Island - Oshie Bay	1	6/10	0	0	3.0	VIE 1,12		No	Yes	f
Lk of the Woods	Bigsby Island, Deep Bay	2	6/10	0	0	2.0	VIE 1,2,13		No	Yes	s(p)
Lk of the Woods	Sable Islands Provincial Nature Reserve	3	6/11	0	0	6.0	VIB 1,12		Yes	Yes	s(p)
Lk of the Woods	Windy Point	4	6/10	0	1	0.5	VI A 2,13	VI A 2,13	Yes	Yes	p
Total				0	2	125.1					

n.r. = not reported

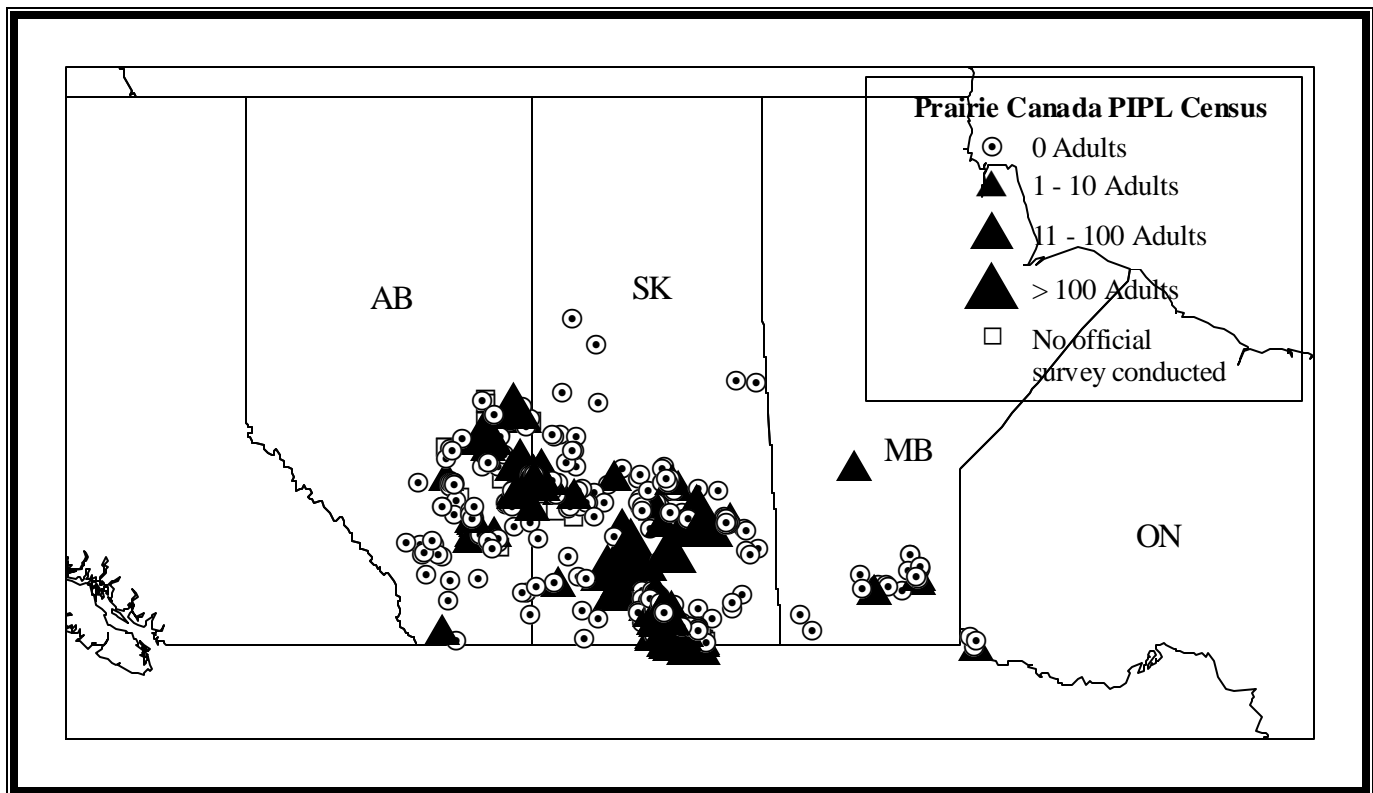
The 2001 International Piping Plover Breeding Census: Prairie Canada and U.S. Northern Great Plains



**Figure 9. Northern Great Plains and Prairies
Piping Plover Distribution**

The 2001 International Piping Plover Breeding Census Results

Prairie Canada Overview



Prairie Canada represents the most vast geographic expanse of Piping Plover habitat, the most logistically difficult to census, and yet, despite these challenges, coverage in international census years has always been very near complete. And until 2001, the region always represented one of the two most numerous Piping Plover breeding areas in the species range. Thus, significant declines suggested in the 2001 results raise serious questions regarding the status and viability of Piping Plovers in this region.

In 2001, 424 recent breeding sites were surveyed in Alberta, Saskatchewan, Manitoba, and Ontario. Among these, 972 Piping Plovers were counted at 91 sites. Thus, only 21.5% of sites surveyed were active. Piping Plover numbers declined in Prairie Canada by 42.4% relative to 1996 results and 32.4% compared with 1991 results. These regional declines are the greatest in number, occurred across the

greatest geographic area, and are the most significant indicated by the 2001 International Census. Further, this large loss of birds over such a short period of time is remarkable for any avian species.

Reasons for the decline vary by site, but the overall effect is an important loss of birds and/or habitat. In many places, the extensive and ongoing drought across the region has resulted in complete drying of the habitat and vegetation encroachment. However, at some sites in Manitoba, severe flooding has taken away the habitat. Surprisingly, across the region, some habitat still appears viable but the birds have ceased to nest.

The apparent significant loss of birds in Prairie Canada may be due to any of the following factors or combination of factors. First, prairie Piping Plovers are fairly site faithful with more than 67% of adults returning to some sites in

Manitoba (Haig and Oring 1988). However, extensive habitat loss or degradation in Alberta, Saskatchewan, and Manitoba may have caused birds to search out better habitat such as the recent unusually good conditions on the Missouri River in the U.S. Northern Great Plains. It is possible that the Prairie Canada birds stopped short on their way north or assessed the northern habitat and retreated south to better conditions. We will not know if this may have occurred until we understand migration and larger scale movement patterns for Piping Plovers using marked birds. Even if birds did settle in the south, the increase in the number of birds on the Missouri River would not compensate for the number of birds lost in Prairie Canada.

It is also possible that long term habitat loss or alteration has caused the Allee effect to come into play in some areas. That is, local populations have become so small that they are not demographically viable and they collapse. This has been described for other Piping Plover populations in the Great Lakes-just prior to the

extinction of the population (e.g. Long Point, Ontario).

Remedies for this significant regional population decline are not clear. If birds did seek out better habitat on the Missouri River, they may try to return to Prairie Canada as Missouri River conditions start to deteriorate. The Missouri River habitat in 2002 is not as good as in 2001, thus, we may see this occur shortly. However, the drought continues in much of Prairie Canada. Thus, until habitat conditions improve, careful management of the remaining viable habitat should be a top priority not only for those in Prairie Canada but also for anyone setting overall management goals for the species.

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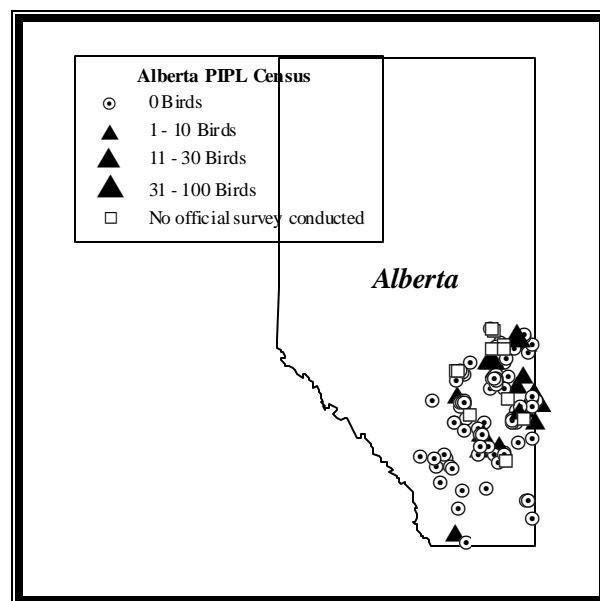
The 2001 International Piping Plover Breeding Census in Alberta

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Virtually all known sites and habitats were visited. Extensive aerial inventories of habitat in the central portion of the province (core Piping Plover range in Alberta) were conducted prior to the census period. All sites covered in previous international censuses that had suitable habitat were visited with the exception of the Lesser Slave Lake (has had only one previous Piping Plover record), and only half of Sullivan Lake was covered. Eleven lakes censused in 1996 were not surveyed in 2001 because of currently unsuitable habitat. Twenty-three previously unsurveyed lakes that had potential habitat were added. In the end, at least 95% of the known historical (and still suitable) and potential habitat in the province was surveyed in Alberta during the 2001 census.

There are many basins in the eastern half of central Alberta that are currently dry, but which have some gravel substrates that were observed on aerial reconnaissance in May 2001. These basins have been documented and may be included in future international censuses if water conditions change.

A total of 150 birds were found in Alberta (115 lakes surveyed). This number is well below the 276 adults found in 1996 (103 lakes surveyed), and 180 birds found in 1991 (only 48 lakes surveyed). These numbers undoubtedly represent a “true” decrease in the provincial



population, given the large increase in lakes surveyed, the deletion of 11 lakes known to be unsuitable, and the increasing skill level of surveyors. Many of the key breeding lakes in the province have substantially lower populations than in recent years, despite having much suitable habitat.

I believe the results adequately represent the actual population within Alberta. Virtually the entire known habitat in the province that is currently suitable was surveyed. The high skill level of observers during the 2001 survey should have resulted in the most accurate and complete counts conducted to date in the province.

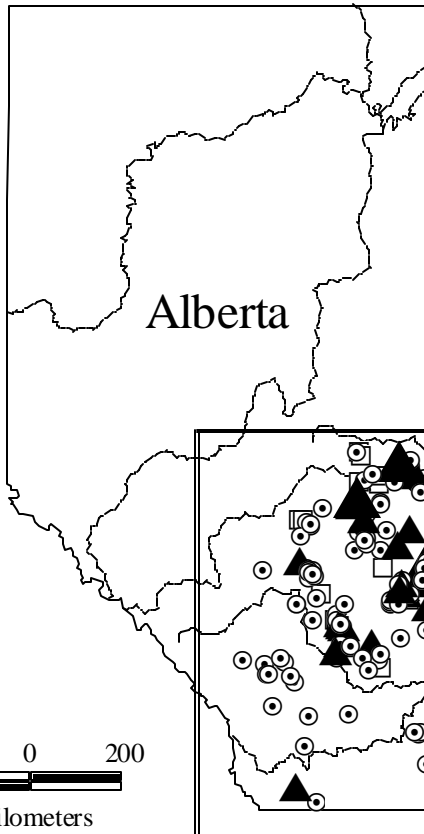
Low water levels, following several years of below-average precipitation rendered many basins unsuitable. Vegetation encroachment on many shorelines is apparent, and a high-water event is needed to restore some of the habitat in the province. Nevertheless, there are still many areas of highly suitable habitat that remain unoccupied, which suggests that habitat limitation is not currently a serious issue in Alberta. Grazing impacts many beaches, but this has not substantially increased from past years.

The survey should be started at least a week earlier in Alberta. Most nests are initiated by

about May 15th, and there is no reason that population surveys couldn't begin shortly after that time. By mid June, some failed breeders, are moving away from breeding areas, and may be missed. Therefore, a slightly earlier date

would be beneficial. Overall, the survey period could be lengthened by at least one week to allow better coverage, particularly in years when bad weather shortens the amount of time available for surveys.

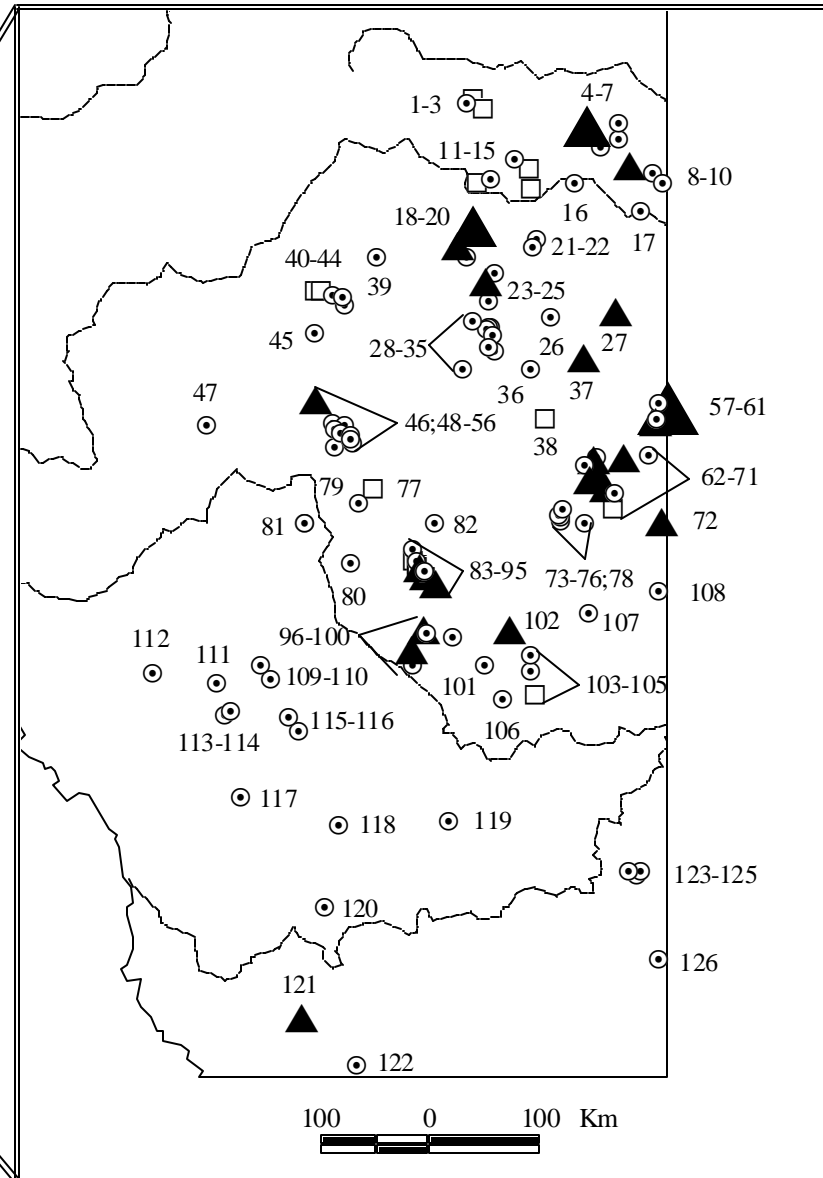
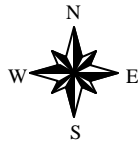
2001 International Piping Plover Breeding Census - Alberta -



200 0 200
Kilometers

Alberta PIPL Census

- 0 Birds
- ▲ 1 - 10 Birds
- ▲ 11 - 30 Birds
- ▲ 31 - 100 Birds
- No official ground survey conducted



The 2001 International Piping Plover Breeding Census in Alberta

REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWNER
Beaver	Camp Lake	26	6/07	0	0	3.2	VI A 10		No	Yes	p
Beaver	Carrier Lake	29	6/13	0	0	4.8	IV A 6,16		No	Yes	s(p)/p
Beaver	Hattie Lake	34	6/04	0	0	4.8	IV A 10,11		No	Yes	p
Beaver	Lac Deroches	32	6/04	0	0	3.2	IV A 1,6,10,16		No	Yes	p
Beaver	Lac Latendre	30	6/06	0	0	3.0	IV A 6,16		No	Yes	s(p)/p
Beaver	Oliva Lake	31	6/11	0	0	4.0	IV A 6,14		No	Yes	s(p)/p
Beaver	Thomas Lake	28	6/07	0	0	15.0	IV A 1,6,14		No	Yes	s(p)/p
Beaver	Vernon Lake	33	6/04	0	0	9.7	IV A 1,10,11,16		No	Yes	p
Beaver/Lamont	Beaverhill Lake	39	6/11	0	0	15.0	VI A 1,6,10,13,16		No	Yes	n.r.
Bonnyville	Cushing Lake	6	6/11	0	0	5.0	IV A 16		No	No	n.r.
Bonnyville	Frog Lake	8	6/20	1	3	46.0	VI A 1,2,6,13	VI A 6	No	No	n.r.
Bonnyville	Muriel Lake	4	6/06	9	19	10.0	VI A,E 1,6,13	VI A 13	No	Yes	s(p)/m/p
Bonnyville	Reita Lake	5	6/11	0	0	8.1	IV A 10,11,16		No	No	n.r.
Camrose	Bittern Lake	45	6/09	0	0	8.5	IV A 1,6,10,14		No	Yes	n.r.
Camrose	Messner Pond	49	6/11	0	0	10.0	IV A,G 6,10,13,16		Yes	Yes	p
Camrose	Miquelon Lake #1	43	6/07	0	0	2.0	IV,VI A,E 4,6,10		No	Yes	p
Camrose	Miquelon Lake #2	44	6/07	0	0	7.0	IV A 6,10,13,14,16		Yes	Yes	s(p)/p
Camrose	Miquelon Lake #3	42	6/13	0	0	30.0	IV A,D,F 2,6,13,14,16		Yes	Yes	s(p)/p
Camrose	Red Deer Lake	46	6/08	2	3	25.8	III A,D 1,2,4,6,10,13,14	III A 6,13	No	Yes	s(p)/m/p
Camrose	Sittingstone Lake	48	6/12	0	0	4.0	IV A 1,6,16		No	No	n.r.
Camrose/Lacomb	Buffalo Lake	56	6/08	0	0	7.0	VI A 1,6,10,13,14		Yes	Yes	s(p)/p
Camrose/Ponoka	Rockeling Bay	50	6/12	0	0	4.0	III A,D,G 1,4,10,11,13,14		Yes	Yes	s(p)/p
Flagstaff	Whitewater Lake	35	6/12	0	0	1.5	IV A 16		No	Yes	s(p)
Foothills	Frank Lake	117	6/11	0	0	5.0	III A 10		No	Yes	s(p)/m/p
Lacombe/Ponoka	Gull Lake	47	6/14	0	0	40.3	VI A 1,4,10		No	Yes	n.r.
Leduc	Joseph Lake *	40									n.r.
Leduc/Camrose	Oliver Lake *	41									n.r.
Lethbridge	Keho Lake	120	6/06	0	0	22.6	VIII A 1,6		Yes	Yes	s(p)
MD 6	Shanks Lake	122	6/07	0	0	8.1	VI A,E 1,6,16		No	Yes	p
MD 6	St. Mary Reservoir	121	6/11	2	2	17.7	VIII A,G 1,2,6,12,13,14,16	VIII A 1,6	No	Yes	s(p)
MD Cypress	Chappice Lake	123	6/08	0	0	5.6	IV A 1,6,10,16		Yes	Yes	s(p)/p
MD Cypress	Reesor Lake	126	6/06	0	0	3.0	VI A 6,10		No	Yes	s(p)

The 2001 International Piping Plover Breeding Census in Alberta (Continued)

REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWNER
MD Cypress	Sam Lake	124	6/14	0	0	5.6	IV A 1,6,16		Yes	Yes	s(p)
MD Cypress	Unnamed Lake (SE of Sam Lake)	125	6/14	0	0	3.2	IV A 6,16		Yes	Yes	f
MD Provost	Hansman Lake	63	6/07	3	6	4.0	VI A 1,6,10,14	VI A 6	No	No	n.r.
MD Provost	Horseshoe Lake	66	6/14	0	0	11.0	IV,VII A 1,16		Yes	Yes	p
MD Provost	Metiskow Lake	64	6/03	0	0	2.5	IV A 10,13,16		Yes	Yes	m
MD Provost	Piper Lake	67	6/03	1	2	2.0	IV G 10,13,16	IV G 13	Yes	Yes	p
MD Provost	Sunken Lake	65	6/03	3	6	5.0	IV G 10,13,16	IV G 13,16	Yes	Yes	p
MD Provost	Unnamed Lake (SE of Capt. Eyre Lake "A")	69	6/05	3	5	5.5	VI A 1,6,12,16	VI A 6,16	No	No	n.r.
MD Wainwright	Baxter Lake	37	6/05	2	6	8.1	IV A,E 1,4,13,16	IV A,E 13,16	Yes	Yes	s(p)/p
MD Wainwright	Cipher Lake	57	6/06	0	0	3.0	IV G 6,10,16		Yes	Yes	m
MD Wainwright	Dillberry Lake	61	6/13	0	0	3.5	VI G 4,10		No	Yes	s(p)
MD Wainwright	Killarney Lake	59	6/04	1	2	15.0	IV G 10,13,16	IV G 13	Yes	Yes	s(p)
MD Wainwright	Leane Lake	72	6/12	1	2	7.5	IV G 10,16	IV G 16	Yes	Yes	s(p)/p
MD Wainwright	NW Killarney Lake	60	6/04	0	0	4.0	IV G 10,13,16		No	Yes	m
MD Wainwright	Unnamed Lake (7 km SE of Irma)	36	6/04	0	0	2.0	IV A 10,11		No	Yes	p
MD Wainwright	West Reflex Lake	58	6/07	15	31	5.0	IV G 4,13,16	IV G 4,13,16	Yes	Yes	p
Minburn	Akasu Lake	19	6/01	2	2	5.0	IV A 1,4,6,10,13,16	IV A 6,13	No	Yes	n.r.
Minburn	Birch Lake - North Basin	23	6/01	0	0	6.0	IV A 1,6,10		No	Yes	m
Minburn	Birch Lake - South Basin	24	6/05	3	7	16.1	IV A 1,6,10,16	IV A 6	No	Yes	p
Minburn	Geneva Lake	22	6/08	0	0	2.5	IV A 6		No	No	p
Minburn	Junction Lake	20	6/04	0	0	4.0	IV A,G 6,13,14,16		No	Yes	n.r.
Minburn/Beaver	Alice Lake	25	6/05	0	0	10.0	IV A,G 6,16		No	Yes	n.r.
Newell	Lake Newell	119	6/14	0	0	37.1	VI A,E 1,6,10,13		Yes	Yes	m
Paintearth/Stettler/ Special Areas 2	Sullivan Lake	82	6/13	0	0	19.0	IV A 1,6,10,14,16		No	Yes	n.r.
Ponoka	Lake 13 (Oberg Property)	51	6/13	0	0	6.0	III A,E 6,10,13,14		No	Yes	s(p)/p
Provost	Gillespie Lake	62	6/06	0	0	17.0	VI G 10		Yes	Yes	p
Provost	Wilkins Lake *	38									n.r.
Red Deer	Goosequill Lake	81	6/12	0	0	10.0	IV A 6,10,11,16		Yes	Yes	s(p)/p
Red Deer	Hummock Lake	80	6/13	0	0	6.0	IV A 1,10,11,16		No	Yes	p
Rockyview	Chestermere Lake	113	6/13	0	0	1.6	VIII A 10		No	Yes	m/p

The 2001 International Piping Plover Breeding Census in Alberta (Continued)

REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWNER
Rockyview	Cochrane Lake	112	6/14	0	0	4.0	IV A 10,16		No	Yes	p
Rockyview	Janet Lake	114	6/08	0	0	0.8	VI A 10		No	Yes	p
Rockyview	McDonald Lake	111	6/07	0	0	4.0	IV A 10,16		Yes	Yes	p
Rockyview	Salt Lake Reservoir	109	6/14	0	0	1.0	IV,VIII A,F 10,16		No	Yes	s(p)/p
Smokey Lake	Reed Lake	1	6/21	0	0	3.0	VI A 10,11		No	Yes	n.r.
Special Areas 2	Antelope Lakes	100	6/06	0	0	3.2	IV A,G 1,6		No	Yes	s(p)
Special Areas 2	Bartman Reservoir	106	6/12	0	0	5.6	VIII A,E 8,10,16		No	No	n.r.
Special Areas 2	Berry Creek Reservoir	101	6/12	0	0	17.7	VIII A 6,8,10,16		No	No	s(p)/m
Special Areas 2	Chain Lake 2	86	6/12	0	0	n.r.	n.r.		No	No	p
Special Areas 2	Chain Lake 3A	87	6/12	0	0	2.0	IV A 1,6,16		Yes	Yes	p
Special Areas 2	Chain Lake 4	88	6/12	3	5	8.0	IV A 1,6,16	IV A 6	Yes	Yes	p
Special Areas 2	Chain Lake 5	90	6/12	0	0	n.r.	n.r.		No	Yes	p
Special Areas 2	Chain Lake 6	91	6/12	0	0	n.r.	n.r.		Yes	Yes	p
Special Areas 2	Chain Lake 8	92	6/12	0	0	n.r.	n.r.		Yes	Yes	p
Special Areas 2	Clear Lake - Chain Lake 3	89	6/12	0	0	3.0	IV A 1,6,16		Yes	Yes	p
Special Areas 2	Coleman Lake	98	6/07	0	0	15.0	VI A,D 6,10,14		No	No	s(p)
Special Areas 2	Dowling Lake	93	6/12	2	4	11.0	IV A 1,6,10,13,16	IV A 6	Yes	Yes	p
Special Areas 2	Handhills Lake	96	6/13	4	9	12.0	IV A 1,6,16	IV A 6,16	Yes	Yes	p
Special Areas 2	Little Fish Lake	99	6/13	1	3	10.0	VI A 1,6,10	VI A 6	Yes	Yes	s(p)/p
Special Areas 2	Major Lakes *	105									n.r.
Special Areas 2	Pearl Lake (Chain Lake #1)	95	6/12	2	4	5.0	IV A 1,6,16	IV A 6	Yes	Yes	p
Special Areas 2	Plover Lake	102	6/08	2	6	16.1	IV A 1,14,16	Not specified	No	Yes	m
Special Areas 2	Unnamed Lake (0.5 km S of Handhills)	97	6/13	0	0	2.0	IV A 1,6,16		No	No	p
Special Areas 2	Unnamed Lake (between Chain 1 and Dowling)	94	6/12	0	0	1.5	IV A 16		No	No	p
Special Areas 3	Blood Indian Creek Reservoir	104	6/07	0	0	8.0	VIII A 10,14,16		No	No	m
Special Areas 3	Dragon Lake	108	6/06	0	0	10.0	IV A 10,14,16		No	No	n.r.
Special Areas 3	Sounding Creek Reservoir	107	6/07	0	0	5.0	VI A 1,10,14,16		No	No	n.r.
Special Areas 3	Unnamed Lake (8 km W of Blood Indian Creek Reservoir)	103	6/07	0	0	4.8	VIII A 10,14,16		No	No	s(p)
Special Areas 4	Foster Lake	68	6/14	2	4	7.3	IV A 6,10,13,16	IV A 13,16	No	Yes	s(p)
Special Areas 4	Gooseberry Lake	78	6/05	0	0	9.0	VI A 1,10,14,16		Yes	Yes	n.r.

The 2001 International Piping Plover Breeding Census in Alberta (Continued)

REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWNER
Special Areas 4	Greenlee Lake	70	6/21	0	0	3.5	IV G 10,13,16		Yes	Yes	m
Special Areas 4	Neutral Hills A	76	6/15	0	0	1.6	IV A 6,10,16		Yes	Yes	p
Special Areas 4	Neutral Hills B1	75	6/15	0	0	4.8	IV A 10,13,16		Yes	Yes	m
Special Areas 4	Neutral Hills B2	74	6/15	0	0	4.0	IV A 10,11,13,16		Yes	Yes	p
Special Areas 4	Neutral Hills C1	73	6/15	0	0	2.4	IV A 10,16		Yes	Yes	p
Special Areas 4	Sounding Lake *	71									n.r.
St. Paul	Bunder Lake *	2									n.r.
St. Paul	Eliza Lake *	13									n.r.
St. Paul	Floatingstone Lake *	3									n.r.
St. Paul	Garnier Lakes	7	6/21	0	0	8.0	VI A 10,11		No	Yes	n.r.
St. Paul	Lower Therien Lake	11	6/07	0	0	5.0	VI A,E 1,6		No	Yes	s(p)/p
St. Paul	St. Cyr Lake *	12									n.r.
St. Paul/Bonnyville	Wasagamu Lakes	10	n.r.	0	0	n.r.	n.r.		Unk	Unk	n.r.
St. Paul/Two Hills	Lac Santé	14	6/11	0	0	14.0	VI A 6,10,13,14		No	No	n.r.
Starland	Chain Lake 7	85	6/12	0	0	1.0	IV A 1,16		Yes	Yes	s(p)/p
Starland	Mudspring Lake	84	6/07	0	0	2.0	VI G 14		No	Yes	n.r.
Stettler	Jacknife (Stinky) Lake	52	6/13	0	0	2.4	IV A,E 1,6,16		Yes	Yes	m
Stettler	Lonepine Lake *	77									n.r.
Stettler	Lowden Lake	79	6/04	0	0	7.5	IV A 6,10,14		Yes	Yes	p
Stettler	Rider Lake	53	6/05	0	0	9.7	III A 1,2,4,6,10,13,14		Yes	Yes	s(p)/p
Stettler	Spiers Lake	83	6/12	0	0	7.0	IV A,G 6,10,13,16		Yes	Yes	f/p
Stettler	Unnamed (Bar Harbour Church Camp)	55	6/15	0	0	0.8	III A 11		No	Yes	p
Stettler	Unnamed Lake (East of Buffalo Lake)	54	6/15	0	0	1.0	III A,G 11		No	Yes	p
Two Hills	Brosseau Lake *	15									n.r.
Two Hills	Lac Emilien (West Basin)	21	6/08	0	0	2.5	IV A 6,10,14		No	No	p
Two Hills	Plain Lake	18	6/08	5	13	12.0	IV A,E 1,2,6,10,13,14	IV A 6	No	No	p
Vermilion River	Albert Lake	27	6/06	3	6	6.5	IV A 6,16	IV A 6,16	No	Yes	s(p)/p
Vermilion River	Christopher Lake	17	6/06	0	0	4.0	IV A 6,16		No	Yes	s(p)
Vermilion River	Long Lake (Vermilion River)	9	7/01	0	0	4.0	VI A 6,10,14		No	No	n.r.
Vermilion River	Unnamed Lake (1 km NW of Meridian Lake)	16	6/11	0	0	3.0	VI A 6,10,14		No	No	n.r.
Vulcan	McGregor Lake	118	6/08	0	0	62.0	VIII A 1,6,10		No	Yes	s(p)
Wheatland	Eagle Lake	115	6/14	0	0	1.0	VIII A 1,10,16		No	Yes	s(p)/m/p

The 2001 International Piping Plover Breeding Census in Alberta (Continued)

REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWNER
Wheatland	Long Lake (Wheatland)	110	6/13	0	0	1.6	IV A 16		No	Yes	n.r.
Wheatland	Namaka Lake	116	6/14	0	0	3.0	IV,VIII A,F 10,16		No	Yes	s(p)
Total				72	150	904.8					

* = no official ground survey conducted

n.r. = not reported

unk = unknown

The 2001 International Piping Plover Breeding Census in Saskatchewan

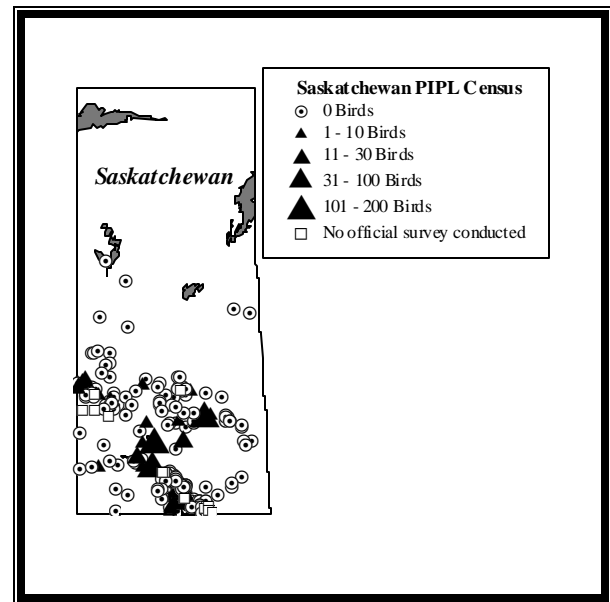
Lori Dunlop
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Simpson, SK S0G 4M0
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Ninety-five percent of known Piping Plover sites and habitat were censused. Sixteen (5%) of the eligible sites in Saskatchewan were missed due to lack of access and/or other extenuating circumstances. However, all of the Missouri Coteau Sites that had habitat in either 1991 or 1996 were censused.

Consideration should be given to dropping some sites in the northern and western portions of the province during future surveys based on lack of suitable habitat.

Saskatchewan census numbers for 2001 (805 birds) are significantly lower than in previous censuses: 1996 (1348 birds); 1991 (1172 birds).

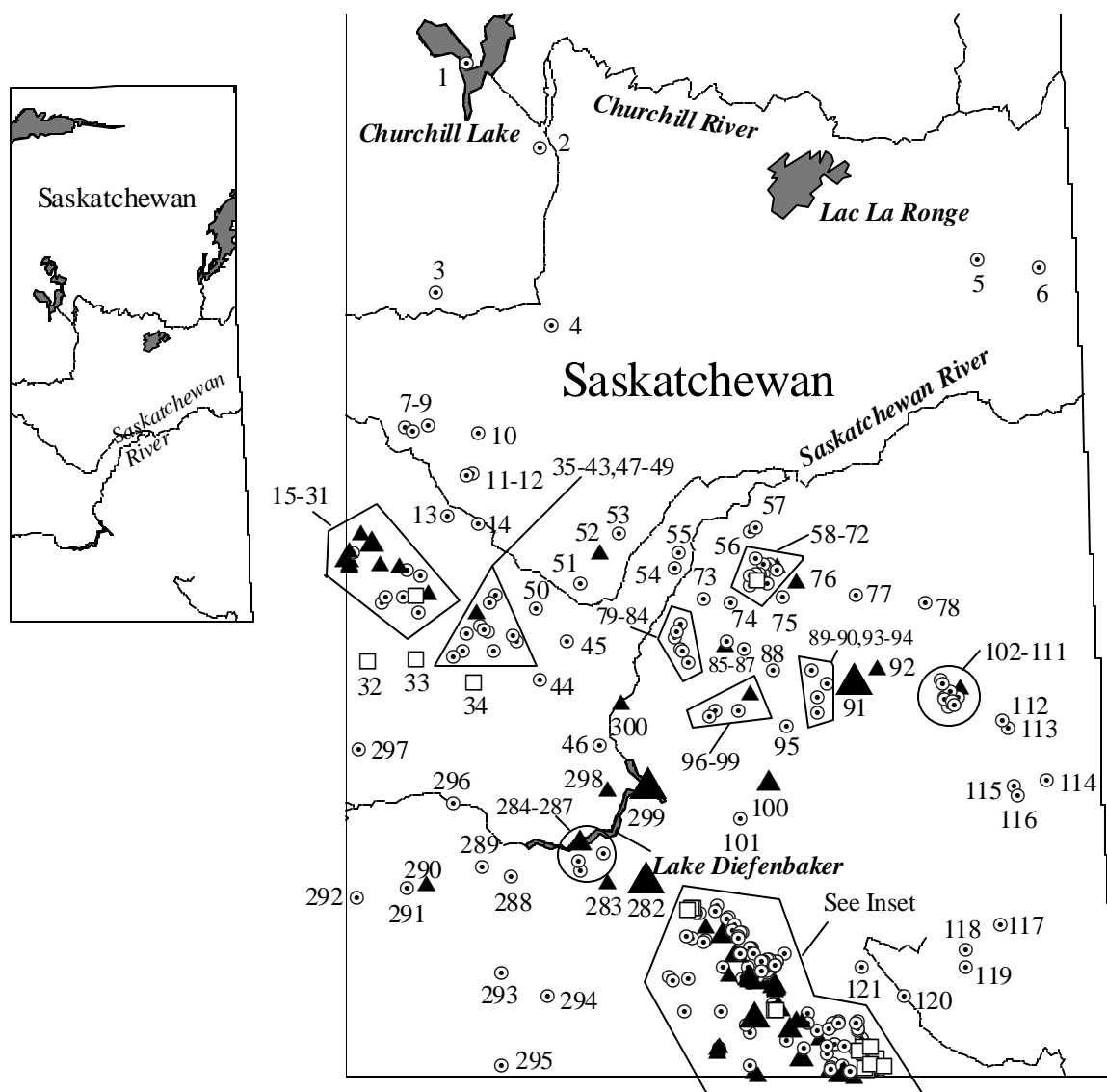
Qualified individuals surveyed a high proportion of known sites, but there could still be unknown sites. Some birds were reportedly



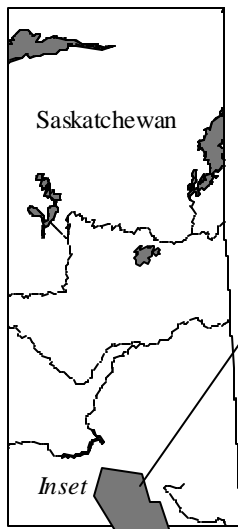
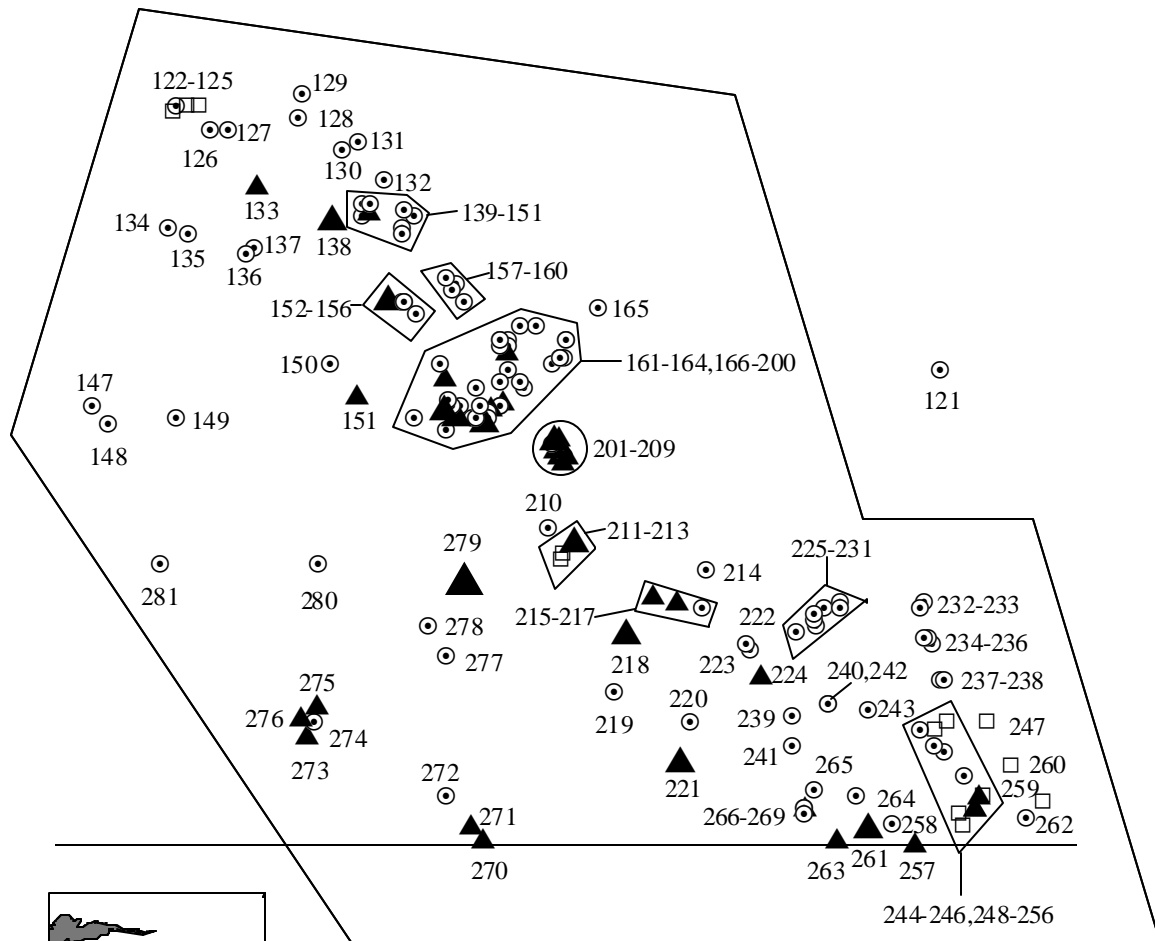
sighted in “non-traditional” habitats and many did not respond to calls and thus may have gone undetected. Therefore, it may be necessary to expand the current search methodology during future surveys.

Important factors affecting Piping Plover numbers include water levels, vegetation growth and wind. Drought conditions across the majority of Saskatchewan left many small basins completely dry in 2001. Low water levels in recent successive years have allowed vegetation to infringe upon beach areas. High winds also may have hindered surveyor’s efforts (i.e., calls would have been muted and visual sightings more difficult).

2001 International Piping Plover Breeding Census - Saskatchewan -



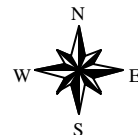
2001 International Piping Plover Breeding Census - Saskatchewan (inset) -



20 0 20
Kilometers

Saskatchewan PIPL Census

- 0 Birds
- ▲ 1 - 10 Birds
- ▲ 11 - 30 Birds
- ▲ 31 - 100 Birds
- ▲ 101 - 200 Birds
- No official survey conducted due to lack of habitat



The 2001 International Piping Plover Breeding Census in Saskatchewan

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Big Quill/Last Mtn.	Big Quill Lake	91	6/01	58	105	120.0	IV A 1,4,6,10,13,14,16	IV A 1,4,6,10,13,14,16	Yes	Yes	s(p)
Big Quill/Last Mtn.	Bitter Lake	110	6/03	0	0	3.5	IV A 6,10,16		Yes	Yes	p
Big Quill/Last Mtn.	Borrow Pit (3 mi. E. of Janzen on Hwy. 16)	90	6/09	0	0	0.8	III A 6		Yes	Yes	p
Big Quill/Last Mtn.	Bultel Lake	98	6/13	0	0	4.0	VI A 6,16		Yes	Yes	p
Big Quill/Last Mtn.	Colt Lake	95	6/02	0	0	5.0	IV G 16		Yes	Yes	p
Big Quill/Last Mtn.	Devil's Lake	97	6/12	0	0	12.0	IV A 6,16		Yes	Yes	p
Big Quill/Last Mtn.	Dog Lake	104	6/14	0	0	2.0	VI A 10		Yes	Yes	p
Big Quill/Last Mtn.	Echo Lake	109	6/08	0	0	9.8	IV,VI A 10,11		Yes	Yes	m
Big Quill/Last Mtn.	Horseshoe Lake	99	6/13	0	0	4.0	VI A 10		Yes	Yes	p
Big Quill/Last Mtn.	Jansen Lake	89	6/13	0	0	25.0	IV A 6,10,14		Yes	Yes	m
Big Quill/Last Mtn.	Kutawagan Lake Complex	94	6/10	0	0	16.0	III A 4,6,10,16		Yes	Yes	f
Big Quill/Last Mtn.	Lac du Chemin	93	6/10	0	0	3.2	IV G 16		Yes	Yes	p
Big Quill/Last Mtn.	Last Mountain Lake	100	6/14	8	17	37.0	III,VI A 1,6,14,16	III,VI A 1,6,14	Yes	Yes	m.
Big Quill/Last Mtn.	Little Manitou Lake	96	6/09	0	1	11.5	IV A 1,4,6,13,16	IV A 16	Yes	Yes	s(p)/p
Big Quill/Last Mtn.	Little Quill Lake	92	6/03	0	1	26.5	VI A 1,6,11,14,16	VI A 16	Yes	Yes	s(p)
Big Quill/Last Mtn.	Lovering Lake East	101	6/13	0	0	3.0	VI A 10		Yes	Yes	m
Big Quill/Last Mtn.	Margo Lake	102	6/14	0	0	5.0	VI A 1,6,11		Yes	Yes	p
Big Quill/Last Mtn.	Newburn Lake	106	6/08	0	0	5.6	VI A 10		Yes	Yes	m
Big Quill/Last Mtn.	Salt Lake	111	6/04	0	0	2.5	IV A 6,11,16		Yes	Yes	p
Big Quill/Last Mtn.	Silver Lake	107	6/04	0	0	1.0	VI A 1,6,10		Yes	Yes	p
Big Quill/Last Mtn.	Unnamed, UTM 832 482	88	6/12	0	0	6.0	IV A 1,10,14		Yes	Yes	n.r.
Big Quill/Last Mtn.	Usinneskaw Lake	103	6/04	0	0	1.0	VI A 1,6,11		Yes	Yes	p
Big Quill/Last Mtn.	Woody Lake	108	6/08	0	0	2.9	IV,VI A 10,11		Yes	Yes	m
Missouri Coteau	Agnellice Lake (UTM 660 300)	158	6/08	0	0	0.1	IV A 14,16		Yes	Yes	n.r.
Missouri Coteau	Alkali Lake	257	6/07	4	6	6.0	IV A 6,14,16	IV A 14,16	Yes	Yes	p
Missouri Coteau	Alma Lake *	245							Yes	No	m
Missouri Coteau	Bead Lake	217	6/06	0	0	2.0	IV A 10		Yes	Yes	n.r.
Missouri Coteau	Beaubien Lake *	260							Yes	No	m
Missouri Coteau	Big Muddy Lake	221	6/03	3	16	35.0	IV A 1,6,10,14,16	IV A 1,6,16	Yes	Yes	m
Missouri Coteau	Bliss Lake	182	6/07	2	8	8.0	IV A,G 1,6,14,16	IV A,G 1,6,14,16	Yes	Yes	n.r.

The 2001 International Piping Plover Breeding Census in Saskatchewan (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Missouri Coteau	Bonneau Lake	278	6/03	0	0	7.0	IV G 10,16		Yes	Yes	p
Missouri Coteau	Bowden Lake	235	6/04	0	0	0.4	IV A 11		No	Yes	p
Missouri Coteau	Bulkin Lake	219	6/04	0	0	6.5	VI A 10		Yes	Yes	n.r.
Missouri Coteau	Burn Lake	194	6/04	5	11	9.5	IV G 6,11,13,16	IV G 6,11,16	Yes	Yes	f
Missouri Coteau	Channel Lake	210	6/05	0	0	13.0	IV,VI A 10,16		Yes	Yes	p
Missouri Coteau	Chaplin Lake	282	6/09	33	105	95.5	IV A,F 6,16	IV A,F 6,16	Yes	Yes	f/s(p)/p
Missouri Coteau	Coal Mine Lake	218	6/05	6	12	8.0	VI A 6,10,11	Not specified	Yes	Yes	p
Missouri Coteau	Coronach Reservoir	272	6/03	0	0	0.1	VIII A 10		Yes	Yes	s(p)
Missouri Coteau	Coteau Pots (UTM 300 342)	267	6/07	0	0	0.5	IV A 10		Yes	Yes	n.r.
Missouri Coteau	Coteau Pots (UTM 300 345)	266	6/07	1	1	0.5	IV A 6,10,14	IV A 6,14	Yes	Yes	p
Missouri Coteau	Coteau Pots (UTM 300 350)	268	6/07	0	0	0.5	IV A 10		Yes	Yes	n.r.
Missouri Coteau	Crookstow River	271	6/04	1	2	4.5	VIII A 1,6,11,14	VIII A 6	Yes	No	s(p)
Missouri Coteau	Dryboro Lake	198	6/07	4	16	6.0	IV E,G 6,11,13,14,16	IV E,G 6,16	Yes	Yes	f
Missouri Coteau	Dunkirk Lake (UTM 490 432)	142	6/06	0	0	1.7	IV A 16		Yes	No	p
Missouri Coteau	East Coteau Lake	261	6/06	6	19	8.0	IV A 1,6,10,14,16	IV A 1,6,16	Yes	Yes	m
Missouri Coteau	Edna Lake	216	6/06	2	3	9.0	IV A 6,10,16	IV A 6	Yes	Yes	n.r.
Missouri Coteau	Elsie Lake	228	n.r.	0	0	4.0	IV A 10		Yes	Yes	n.r.
Missouri Coteau	Fife Lake	276	6/16	4	7	16.0	IV A 1,6,10	IV A 1,6	Yes	Yes	p
Missouri Coteau	Frederick Lake (UTM 435 425)	138	6/07	2	12	8.0	IV A,G,F 6,16	IV A 16	Yes	Yes	n.r.
Missouri Coteau	Grant Lake (UTM 370 484)	273	6/04	0	1	3.0	IV A 6,14,16	IV A 6	Yes	Yes	p
Missouri Coteau	Green Lake	214	6/06	0	0	2.5	IV A 10		Yes	Yes	n.r.
Missouri Coteau	Handsome Lake	285	6/16	0	0	12.0	II,IV A 2,14		Yes	Yes	p
Missouri Coteau	Horizon Lake	211	6/04	5	18	10.0	IV A 2,6,10,13,16	Not specified	No	Yes	n.r.
Missouri Coteau	Howe Pond (UTM 556 388)	145	6/06	0	0	0.9	IV A 16		Yes	Yes	p
Missouri Coteau	Jim Creek Lake	264	6/07	0	0	7.5	VIII A 10		No	Yes	m
Missouri Coteau	Karl Lake	234	6/04	0	0	0.8	IV A 11		Yes	Yes	p
Missouri Coteau	Lake of the Rivers	151	6/12	4	7	4.5	IV,VI A 6,11,13,14,16	IV,VI A 6,13,16	Yes	Yes	s(p)
Missouri Coteau	Little Coteau Lake	258	6/08	0	0	1.0	IV A 10,16		Yes	Yes	m
Missouri Coteau	Lonetree Lake	263	6/04	0	1	3.0	IV A 6,10,13,14,16	IV A 6	Yes	Yes	s(p)
Missouri Coteau	MacDonaugh Lake	229	6/08	0	0	6.5	IV A 10		Yes	Yes	n.r.
Missouri Coteau	MacKenzie Lake	231	6/08	0	0	1.5	IV A 10		Yes	Yes	n.r.
Missouri Coteau	Marjorie Lake	226	6/06	0	0	3.8	IV A 10		Yes	No	n.r.

The 2001 International Piping Plover Breeding Census in Saskatchewan (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Missouri Coteau	Mather Lake *	247							Yes	Yes	n.r.
Missouri Coteau	McGrath Lake	222	6/11	0	0	4.0	IV A 10		Yes	Yes	n.r.
Missouri Coteau	McGrath Lake South	223	6/11	0	0	4.5	IV A 10		Yes	No	n.r.
Missouri Coteau	Montague Lake	280	6/13	0	0	11.0	IV A 6,14		Yes	Yes	p
Missouri Coteau	N. of Bliss Lake (UTM 630 155)	181	6/08	0	0	2.0	IV A 14,16		Yes	No	n.r.
Missouri Coteau	North Pond (UTM 395 500)	274	6/04	0	0	1.5	IV A 16		Yes	Yes	p
Missouri Coteau	Old Wives Lake	133	6/07	1	5	80.6	IV A 1,6,11,16	IV A 6,16	Yes	Yes	n.r.
Missouri Coteau	Oro Lake	177	6/06	0	0	3.0	VI A 10,11,13		Yes	Yes	s(p)
Missouri Coteau	Overland Lake *	256							Yes	Yes	m
Missouri Coteau	Payn Lake *	255							No	Yes	n.r.
Missouri Coteau	Radio Towers (UTM 337 540)	242	6/11	0	0	1.8	IV A 10		Yes	No	n.r.
Missouri Coteau	Radio Towers (UTM 340 538)	240	6/11	0	0	1.8	IV A 10		Yes	No	n.r.
Missouri Coteau	Ratcliffe South *	259							Yes	No	p
Missouri Coteau	Reed Lake	283	6/15	1	3	32.3	IV A 1,6,11,14	IV A 6,11	Yes	Yes	p
Missouri Coteau	Ritchie Lake	215	6/05	0	1	5.0	IV A 6,16	IV A 16	Yes	Yes	p
Missouri Coteau	Rivard Lake	277	6/06	0	0	7.5	IV A 14,16		Yes	Yes	p
Missouri Coteau	Salt Lake (UTM 215 590)	224	n.r.	2	8	11.0	VI A 6,10,13,14,16	VI A 6	Yes	Yes	n.r.
Missouri Coteau	Salt Lake (UTM 288 035)	286	6/16	0	0	12.0	II,IV,VI A 2,14		Yes	Yes	p
Missouri Coteau	Sandoff Lake	251	6/12	4	6	8.0	IV A 6,16	IV A 6,16	Yes	Yes	p
Missouri Coteau	Scottie Lake (UTM 800 220)	162	6/05	0	0	5.0	IV,VI A 6,10,14		Yes	No	n.r.
Missouri Coteau	Shoe Lake	184	6/04	3	6	4.0	IV,VII G,F 10,16	IV G 10,16	Yes	Yes	s(p)
Missouri Coteau	Skyeta Lake (UTM 735 197)	175	6/05	0	0	9.5	IV,VI A 6,10,14		Yes	No	n.r.
Missouri Coteau	Stiles Lake	225	n.r.	0	0	3.2	IV A 10,16		Yes	No	n.r.
Missouri Coteau	Twelve Mile Lake	281	6/15	0	0	25.0	IV A 6,10,16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 028 055	148	6/06	0	0	5.5	IV A 6,14		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 085 495	220	6/07	0	0	2.8	VIII A 10		No	Yes	p
Missouri Coteau	Unnamed, UTM 135 405	134	6/12	0	0	2.7	IV A 10		Yes	No	p
Missouri Coteau	Unnamed, UTM 148 612 *	123							Yes	No	s(p)
Missouri Coteau	Unnamed, UTM 150 065	149	6/08	0	0	6.0	VI A 1,10,16		Yes	No	p
Missouri Coteau	Unnamed, UTM 155 623	122	6/12	0	0	0.4	IV A 16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 170 394	135	6/11	0	0	6.5	IV F 16		Yes	No	p
Missouri Coteau	Unnamed, UTM 180 625 *	125							Yes	No	p

The 2001 International Piping Plover Breeding Census in Saskatchewan (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Missouri Coteau	Unnamed, UTM 195 630 *	124							Yes	No	s(p)
Missouri Coteau	Unnamed, UTM 220 587	126	6/12	0	0	3.6	IV A 16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 246 585	127	6/12	0	0	3.3	IV A 16		Yes	No	p
Missouri Coteau	Unnamed, UTM 272 510	239	6/11	0	0	1.6	IV A 1		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 275 456	241	6/07	0	0	4.8	III A 10		No	Yes	p
Missouri Coteau	Unnamed, UTM 295 330	269	6/07	0	0	3.0	III A 10		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 295 375	137	6/08	0	0	3.0	IV A,G 10,14,16		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 304 706	227	6/06	0	0	3.5	IV A 10		Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 310 378	265	n.r.	0	0	1.5	IV A 10		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 360 717	230	6/08	0	0	2.2	IV A 10		Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 375 604	128	6/05	0	0	1.6	IV A,G 6,10,16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 382 645	129	6/05	0	0	0.8	IV G 16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 400 535	275	6/04	1	2	3.0	IV A 6,16	IV A 6	Yes	Yes	p
Missouri Coteau	Unnamed, UTM 414 530	243	6/07	0	0	1.0	IV A 6,14,16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 430 164	150	6/08	0	0	0.1	III A 14		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 455 552	130	6/05	0	0	4.0	IV A 6,10,16		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 480 560	131	6/05	0	0	2.4	IV A 16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 488 445	139	6/06	0	0	1.8	IV A 10,16		Yes	No	p
Missouri Coteau	Unnamed, UTM 493 073	284	6/16	0	0	12.0	II,IV,VI A 2,14		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 500 450	140	6/07	0	0	5.0	IV A,G 6,16		Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 503 440	141	6/07	1	2	4.8	IV A 6,16	IV A 16	Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 503 713	233	6/04	0	0	1.5	IV A 6,10		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 505 486	244	6/12	0	0	2.5	IV A 1,6,16		No	Yes	p
Missouri Coteau	Unnamed, UTM 512 718	232	6/04	0	0	3.5	IV A 6,10		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 514 656	236	6/04	0	0	0.6	IV A 11		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 534 490	132	6/06	0	0	2.3	IV A 10,16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 535 455	248	6/12	0	0	2.5	IV A 1,6,16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 540 279	152	6/07	4	11	4.0	IV A,G 16	Not specified	Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 543 575	237	6/04	0	0	0.8	IV A 11		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 550 450	249	6/12	0	0	1.5	IV A 1,6,16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 550 575	238	6/04	0	0	1.6	IV A 11		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 560 273	153	6/07	0	0	2.0	IV A,G 1,6,14,16		Yes	Yes	p

The 2001 International Piping Plover Breeding Census in Saskatchewan (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Missouri Coteau	Unnamed, UTM 560 404	146	6/05	0	0	1.0	IV A 10,11,14,16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 565 273	154	6/07	0	0	2.0	IV A,G 1,6,14,16		Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 567 435	143	6/05	0	0	0.3	III A 6,10,11,14		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 571 267	155	6/08	0	0	1.5	IV A 16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 578 063	200	6/07	0	0	6.0	IV A 6,10,16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 579 428	144	6/05	0	0	0.4	IV A 6,10,11,16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 590 248	156	6/07	0	0	1.0	IV A 10,14		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 591 408	250	6/12	0	0	0.8	IV A 16		No	Yes	p
Missouri Coteau	Unnamed, UTM 613 345	253	6/12	1	1	1.5	IV A 6,10,13,16	IV A 6	Yes	Yes	p
Missouri Coteau	Unnamed, UTM 613 353	254	6/12	1	1	0.8	IV A 6,16	IV A 16	Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 628 368 *	252							No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 632 035	199	6/07	0	0	3.0	IV A 1,6,10,16		No	Yes	p
Missouri Coteau	Unnamed, UTM 640 309	157	6/07	0	0	1.0	IV A 6,14,16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 646 096	197	6/07	0	0	2.0	VI A 10		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 650 075	195	6/04	0	0	0.8	IV G 16		Yes	Yes	f
Missouri Coteau	Unnamed, UTM 650 295	159	6/08	0	0	1.0	IV A,G 6,14,16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 662 075	196	6/04	0	0	0.9	IV G 16		Yes	Yes	f
Missouri Coteau	Unnamed, UTM 673 266	160	6/08	0	0	0.1	IV A 10,14,16		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 684 062	193	6/08	0	0	2.5	IV A 13,14,16		Yes	No	f
Missouri Coteau	Unnamed, UTM 691 060	192	6/08	0	0	1.5	IV A 6,16		Yes	Yes	f
Missouri Coteau	Unnamed, UTM 698 105	183	6/08	0	0	2.5	IV G 16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 700 080	191	6/08	0	0	1.5	IV A 1,16		Yes	Yes	f
Missouri Coteau	Unnamed, UTM 702 290	270	6/04	1	2	2.5	IV A 2,6,16	IV A 2,6	No	Yes	p
Missouri Coteau	Unnamed, UTM 705 056	190	6/08	6	24	5.0	IV G 6,10,13,16	IV G 6,13,16	Yes	Yes	p
Missouri Coteau	Unnamed, UTM 714 054	189	6/04	0	0	2.0	IV G 11,16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 717 067	187	6/04	0	0	1.5	IV G 11,16		Yes	Yes	f
Missouri Coteau	Unnamed, UTM 725 075	185	6/04	0	1	2.0	IV G 11,16	IV G 16	Yes	Yes	f
Missouri Coteau	Unnamed, UTM 733 205	176	6/05	0	0	2.5	IV,VI A 6,10,14		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 735 128	180	6/07	0	0	2.0	IV A 6,10,16		Yes	No	f
Missouri Coteau	Unnamed, UTM 737 191	172	6/05	0	0	1.8	IV A 6,10,14		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 738 085	188	6/07	0	0	1.0	IV A 6,16		Yes	Yes	p
Missouri Coteau	Unnamed, UTM 739 075	186	6/08	0	0	0.9	VI A 10		Yes	Yes	s(p)

The 2001 International Piping Plover Breeding Census in Saskatchewan (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Missouri Coteau	Unnamed, UTM 740 181	171	6/05	0	1	2.0	IV,VI A 6,10,14	IV A 6	Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 740 187	173	6/05	0	0	2.2	IV,VI A 6,10,14		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 752 204	174	6/05	0	0	2.3	IV A 6,10,14		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 770 230	161	6/05	0	0	2.3	IV A 6,10,14		Yes	No	n.r.
Missouri Coteau	Unnamed, UTM 775 125	179	6/07	0	0	1.5	IV A 6,10,14		Yes	Yes	f
Missouri Coteau	Unnamed, UTM 776 116	178	6/07	0	0	1.5	IV A 6,10,16		Yes	Yes	f
Missouri Coteau	Unnamed, UTM 831 160	170	6/06	0	0	4.0	IV,VI A 6,10,14,16		Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 832 010	201	6/06	0	0	1.3	IV A 6,10		Yes	Yes	f
Missouri Coteau	Unnamed, UTM 840 020	202	6/06	5	13	4.0	IV A 6,10,13,14,16	IV A 6,13,16	Yes	Yes	f
Missouri Coteau	Unnamed, UTM 841 995	204	6/07	0	1	3.0	VI A 6,10	VI A 6	Yes	Yes	f
Missouri Coteau	Unnamed, UTM 842 003	206	6/06	0	0	2.2	VI A 10		Yes	Yes	f
Missouri Coteau	Unnamed, UTM 842 027	203	6/06	1	5	3.5	IV G 6,14	IV G 6,14	Yes	Yes	f
Missouri Coteau	Unnamed, UTM 842 162	169	6/06	0	0	2.4	IV,VI A 6,10,14,16		Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 845 167	168	6/06	0	0	0.6	IV,VI A 6,10,14,16		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 846 992	209	6/06	1	8	3.6	VI A 2,6,10	VI A 2,6	Yes	Yes	f
Missouri Coteau	Unnamed, UTM 847 800 *	213							No	Yes	m
Missouri Coteau	Unnamed, UTM 848 171	166	6/06	0	0	1.0	IV,VI A 6,10,14,16		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 849 167	167	6/06	0	0	1.0	IV,VI A 6,10,14,16		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 850 814 *	212							No	Yes	m
Missouri Coteau	Unnamed, UTM 851 988	207	6/06	0	0	1.2	VI A 6,10		No	Yes	f
Missouri Coteau	Unnamed, UTM 856 984	208	6/06	1	2	1.5	VI A 6,10	VI A 6	No	Yes	f
Missouri Coteau	Unnamed, UTM 857 197	163	6/06	0	0	2.0	IV,VI A 1,6,10,14		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 860 985	205	6/06	0	1	1.0	VI A 6,10	VI A 6	No	Yes	f
Missouri Coteau	Unnamed, UTM 863 200	164	6/06	0	0	1.2	IV,VI A 1,6,10		Yes	Yes	n.r.
Missouri Coteau	Unnamed, UTM 915 261	165	6/06	0	0	1.3	IV,VI A 1,6,10		No	Yes	n.r.
Missouri Coteau	Unnamed, UTM 995 088	147	6/06	0	0	3.0	IV A 1,6,10,14		Yes	Yes	p
Missouri Coteau	Wellington Lake *	246							Yes	Yes	m
Missouri Coteau	West Coteau Lake (UTM 350 315)	262	6/08	0	0	12.0	IV A 1,6,10,14,16		Yes	Yes	p
Missouri Coteau	Willowbunch Lake	279	6/06	15	41	110.0	IV A 6,10,11,16	IV A 6,16	Yes	Yes	m/p
North Central	Blaine Lake North	53	6/04	0	0	6.5	IV G 16		Yes	Yes	p
North Central	Green Lake	4	6/06	0	0	0.4	VI A 1,6,10		Yes	Yes	s(p)
North Central	Lizard Lake	50	6/06	0	0	7.0	VI A,G 1,6,10,13,16		Yes	Yes	m

The 2001 International Piping Plover Breeding Census in Saskatchewan (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
North Central	Marion Lake	54	6/03	0	0	3.2	IV G 16		Yes	Yes	p
North Central	Radisson Lake	51	6/07	0	0	7.0	VI A 13,14		Yes	Yes	p
North Central	Redberry Lake	52	6/04	1	7	16.5	III,VI A 1,2,6,10,11,12,13,14	III,VI A 11,12,13	Yes	Yes	n.r.
North Central	Rempel Lake	55	6/03	0	0	1.6	IV G 16		Yes	Yes	s(p)/p
North Central	Van Scoy Lake	45	6/06	0	0	8.0	IV,VIII A,G 1,2,6,10,16		Yes	Yes	m
Northeast	Arthur Lake	65	6/12	0	0	3.5	IV,VI A 1,6,14		No	Yes	p
Northeast	Basin Lake	60	6/14	0	0	25.0	Not specified		Yes	Yes	n.r.
Northeast	Bruno Lake	59	6/13	0	0	4.0	IV A 10,16		No	Yes	p
Northeast	Buffer Lake	74	6/10	0	0	23.0	IV G 1,6,14,16		Yes	Yes	p
Northeast	East of Perigord (UTM 990 006)	78	6/09	0	0	1.0	VI A 8,10,11		Yes	Yes	p
Northeast	Elkona Lake	61	6/08	0	2	5.0	IV A,G 1,6,10,14,16	IV G 16	Yes	Yes	p
Northeast	Houghton Lake	75	6/08	0	0	30.0	IV A,E 6,10,14,16		Yes	Yes	p
Northeast	Jumping Lake (Big)	57	6/05	0	0	15.0	IV A,G 1,6,10,14,16		Yes	Yes	n.r.
Northeast	Jumping Lake (Small)	56	6/05	0	0	5.0	IV A,G 1,6,10,14,16		Yes	Yes	n.r.
Northeast	Lake Charron	77	6/08	0	0	5.0	VI A 2,6,10,11		Yes	Yes	s(p)
Northeast	Lenore Lake	76	6/09	0	3	56.0	VI A,E 1,6,10,11,14	VI A 6	Yes	Yes	p
Northeast	Louis Lake	70	6/08	0	0	5.5	IV A 16		No	Yes	p
Northeast	Lucien Lake	71	6/14	0	0	4.0	VI A 1,6,10,11,14		No	Yes	m/p
Northeast	Marie Lake	67	6/11	0	0	2.0	IV A 1,6,14		Yes	Yes	p
Northeast	McIntyre Lake	63	6/08	0	0	7.0	VI A 10,11		No	Yes	p
Northeast	Middle Lake	62	6/07	0	0	15.0	IV A 1,13,16		Yes	Yes	n.r.
Northeast	Muskiki Lake	73	6/05	0	0	26.0	IV A,E,G 6,10,11,13,14,16		Yes	Yes	p
Northeast	Olivier Lake	66	6/12	0	0	2.5	IV,VI A 1,6,10,14		Yes	Yes	p
Northeast	Sandy Beach, Amisk Lake	6	n.r.	0	0	1.0	VI A 1,6		No	Yes	s(p)
Northeast	Sayer Lake	64	6/08	0	0	5.8	VI A 10,16		No	Yes	p
Northeast	Shannon Lake	58	6/13	0	0	10.0	VI A 1,6,10,16		No	Yes	n.r.
Northeast	Stonewall Lake	105	6/08	0	1	8.6	IV A,E 1,10	IV E 1	Yes	Yes	n.r.
Northeast	Unnamed, UTM 665 130	72	6/12	0	0	2.5	IV,VI A 1,6		Yes	Yes	n.r.
Northeast	Unnamed, UTM 670 165	68	6/12	0	0	1.5	IV A 10,14,16		No	Yes	p

The 2001 International Piping Plover Breeding Census in Saskatchewan (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Northeast	Unnamed, UTM 710 160 *	69							No	Yes	p
Northwest	Aroma Lake	47	6/07	2	7	3.5	IV A 1,6,13,16	IV A 6,13	Yes	Yes	p
Northwest	Belliveau Lake	8	6/13	0	0	2.0	IV G 6,16		No	No	p
Northwest	Castlewood Lake	43	6/09	0	0	9.0	IV A,G 6,13,16		Yes	Yes	p
Northwest	Chisholm Lake	5	6/15	0	0	2.0	III G 10,16		No	Yes	n.r.
Northwest	Ear Lake	31	6/04	0	0	4.0	IV A 10,16		Yes	Yes	p
Northwest	East Reflex Lake	18	6/07	0	0	12.0	VI A 1,10		Yes	Yes	s(p)/p
Northwest	Freshwater Lake North	20	n.r.	1	3	4.8	VI A 1,4,6,10,14,16	VI A 6	No	Yes	n.r.
Northwest	Freshwater Lake South	21	6/04	3	3	9.4	VI A 1,4,6,10,13,14,16	VI A 6	No	Yes	s(p)
Northwest	Houchen Lake	25	6/05	0	0	3.0	Not specified		No	No	p
Northwest	Jay Lake *	27							Yes	Yes	p
Northwest	Jones Lake (SW of Keppel Lake)	48	6/11	0	0	2.0	IV A 6,11		No	No	n.r.
Northwest	Keppel Lake	49	6/11	0	0	20.0	IV G 1,6,13,16				n.r.
Northwest	Killsquaw Lakes/Unity Salt Plant	26	6/08	1	3	11.0	IV,VII A,G 10,14,16	IV A 16	Yes	Yes	p
Northwest	Lac des Isles	3	6/14	0	0	6.0	VI A 1,6		Yes	Yes	s(p)
Northwest	Lac Ile-a-la Crosse (South Bay)	2	6/15	0	0	0.8	VI A 1,10		Yes	Yes	s(p)
Northwest	Lake North of Handel	37	6/08	0	0	2.0	IV A,G 6,10,16		Yes	Yes	p
Northwest	Lambert Lake	13	6/17	0	0	4.8	IV G 6		Yes	Yes	n.r.
Northwest	Landis Lake	38	6/08	0	0	0.1	IV A 16		Yes	Yes	p
Northwest	Little Manitou Lake	22	6/15	1	3	20.0	IV A 1	IV A 1	No	No	s(p)
Northwest	Little Tramping Lake	36	6/08	0	0	1.0	VI A 10		No	Yes	p
Northwest	Lydden Lake	41	6/09	0	0	17.0	IV A,G 6,10,16		Yes	Yes	p
Northwest	Manitou Lake	16	6/09	7	18	65.0	IV A,F 1,4,6,10,12,13,14,16	IV A,F 6	Yes	Yes	s(p)/m/p
Northwest	Oban Lake	42	6/10	0	0	4.0	IV A 1,6,10,16		Yes	Yes	p
Northwest	Peter Pond Lake/Sandy Point	1	6/15	0	0	2.5	VI A 1,10		Yes	Yes	s(p)
Northwest	Picnic Lake	12	6/12	0	0	3.0	VI A 1,6		No	No	p
Northwest	Ray's Lake	7	6/13	0	0	2.0	VI F 1,2,13		No	No	n.r.
Northwest	Reed Lake NW	28	6/04	0	0	0.5	IV A 16		Yes	Yes	p
Northwest	Russell Lake	11	6/12	0	0	11.0	Not specified		Yes	Yes	p
Northwest	Schopfer Slough	17	6/08	0	1	5.3	VI A 1,4,6,10	VI A 1,6	No	Yes	p

The 2001 International Piping Plover Breeding Census in Saskatchewan (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Northwest	SE of Landis Lake (UTM 722 817)	39	6/08	0	0	1.0	IV A,G 6,16		Yes	Yes	p
Northwest	Seagram Lake East	24	6/12	0	0	8.0	IV A 10,16		No	Yes	p
Northwest	Seagram Lake West	23	6/03	0	2	10.1	IV A 1,4,6,10,13,14,16	IV A 6	Yes	Yes	s(p)/p
Northwest	Stony Lake	10	6/15	0	0	12.0	IV G 14,16		Yes	Yes	p
Northwest	Sunny Lake	14	6/15	0	0	4.0	IV G 1,6,10,16		No	Yes	n.r.
Northwest	Tramping Lake	35	6/08	0	0	6.5	IV A 8,14,15,16		Yes	Yes	s(p)
Northwest	Wells Lake	15	6/13	1	2	10.5	IV A 1	IV A 1	No	Yes	s(p)
Northwest	W. of Spruce Lake (UTM 262 344)	9	6/13	0	0	2.3	Not specified		No	No	p
Northwest	West of Whiteshore Lake	40	6/08	0	0	2.0	IV A 16		Yes	Yes	p
Northwest	West Reflex Lake (Sask. Portion)	19	6/07	6	18	5.0	IV G 13,16	IV G 13,16	Yes	Yes	p
Northwest	Winterhaldt Lake	29	6/15	0	0	3.5	III G 10,16		No	Yes	n.r.
Northwest	Zoller Lake	30	6/15	0	0	2.5	III G 10,16		No	Yes	n.r.
Regina Plains	Crescent Lake	116	6/18	0	0	10.0	VI A 1,10		Yes	Yes	n.r.
Regina Plains	Good Spirit Lake	112	6/18	0	0	8.0	VI A 1,4,11,12,14		Yes	Yes	s(p)
Regina Plains	Horseshoe Lake	113	6/20	0	0	0.5	III A 10		Yes	Yes	s(p)/p
Regina Plains	Ibsen Lake	121	6/08	0	0	2.0	III,VI F 10		Yes	Yes	m
Regina Plains	Kipling Marsh	117	6/09	0	0	18.0	VI A 10,14		No	Yes	p
Regina Plains	Leech Lake	115	6/18	0	0	12.0	IV A 10		Yes	Yes	n.r.
Regina Plains	Moose Mountain Lake	118	6/03	0	0	21.0	VI A 10,14		Yes	Yes	p
Regina Plains	Nickle Lake	120	6/05	0	0	3.0	II,V,VI A 1,10,14,16		Yes	Yes	m
Regina Plains	Rock Lake	119	6/11	0	0	2.0	VI F 1,10,14		Yes	Yes	m
Regina Plains	Soda Lake	114	6/18	0	0	3.7	IV A 10		Yes	Yes	n.r.
S. Saskatchewan R.	Lk Dief. (Riverhurst to Arms)	299	6/03	83	189	197.4	VIII A 1,2,4,6,10,11,12,13,14,16	VIII A 1,6,10,11,13	Yes	Yes	s(p)
S. Saskatchewan R.	Lk Dief (Sask Lndg to Riverhurst)	287	6/12	6	12	120.0	VIII A,E 1,4,6,10,13,14	VIII A,E 6	Yes	No	s(p)/m/p
S. Saskatchewan R.	S. Saskatchewan R., middle	300	6/07	1	7	131.2	V A,D,E 1,4,6	V A,D 1,4	Yes	Yes	f/s(p)/p
S. Saskatchewan R.	S. Saskatchewan R., upstream	296	6/05	0	0	71.0	V A,D,E,F 1,2,4,6,10,12,14		Yes	Yes	n.r.
Saskatoon SE	Bradwell Reservoir	84	6/12	0	0	1.0	VIII A 1,6		Yes	Yes	s(p)
Saskatoon SE	Burke Lake	80	6/07	0	0	9.7	IV A 16		Yes	Yes	p
Saskatoon SE	Esker Slough (UTM 124 657)	83	6/12	0	0	2.0	IV A 6,13,16		Yes	Yes	n.r.

The 2001 International Piping Plover Breeding Census in Saskatchewan (Continued)

COUNTY/REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Saskatoon SE	Meacham East	85	6/10	0	0	16.1	IV G 6,10,14,16		Yes	Yes	p
Saskatoon SE	Meacham SE (UTM 603 647)	87	6/07	0	0	19.4	IV G 6,10,14,16		Yes	Yes	p
Saskatoon SE	Meacham South	86	6/08	0	1	9.7	IV G 6,10,14,16	IV G 16	Yes	Yes	p
Saskatoon SE	NW of Blucher (UTM 155 642)	82	6/12	0	0	3.0	IV A 6,13,14,16		Yes	Yes	p
Saskatoon SE	Patience Lake	81	6/12	0	0	10.0	IV,VII A 1,6,16		Yes	Yes	m
Saskatoon SE	Porter Lake	79	6/07	0	0	8.5	IV A 16		Yes	Yes	p
Southwest	Driscoll Lake	294	6/11	0	0	6.5	VI A 1,6,10,14		Yes	Yes	p
Southwest	Freefight Lake	290	6/12	3	7	5.0	IV A 1,6	IV A 1,6	Yes	Yes	s(p)
Southwest	Ingebrigt Lake	291	6/08	0	0	10.0	IV,VII C 1,16		Yes	Yes	p
Southwest	Lonetree Lake	295	6/09	0	0	11.0	VI A 1,6,9,10,13		Yes	Yes	p
Southwest	MacLaren Lake	292	6/06	0	0	4.8	IV A 1,6		Yes	Yes	p
Southwest	Notukeu Lake	293	6/14	0	0	7.5	VI A 1,4,6,10,13,14,16		Yes	Yes	p
Southwest	Snakehole Lake	289	6/03	0	0	0.2	III E 11		Yes	Yes	n.r.
Southwest	Success Lake	288	6/06	0	0	0.5	IV A 10,14		No	Yes	p
Southwest	Unnamed, UTM 277 363	136	6/08	0	0	0.1	III A 1,14		No	Yes	n.r.
West	Alsask Reservoir	297	6/07	0	0	8.2	IV,VII,VIII A 4,10,16		Yes	Yes	p
West	Luck Lake	298	6/02	0	2	20.0	IV A 16	IV A 16	No	No	n.r.
West	Opuntia Lake *	34							Yes	Yes	f
West	Plover Lake *	32							Yes	Yes	n.r.
West	Stockwell Lake	46	6/10	0	0	4.8	VI A 16		Yes	Yes	s(p)
West	Valley Centre (UTM 025 454)	44	6/05	0	0	4.0	IV A,G 6,10,16		Yes	Yes	m
West	Zella Lake *	33							Yes	Yes	n.r.
Total				313	805	2552.4					

* = no official survey conducted due to lack of habitat

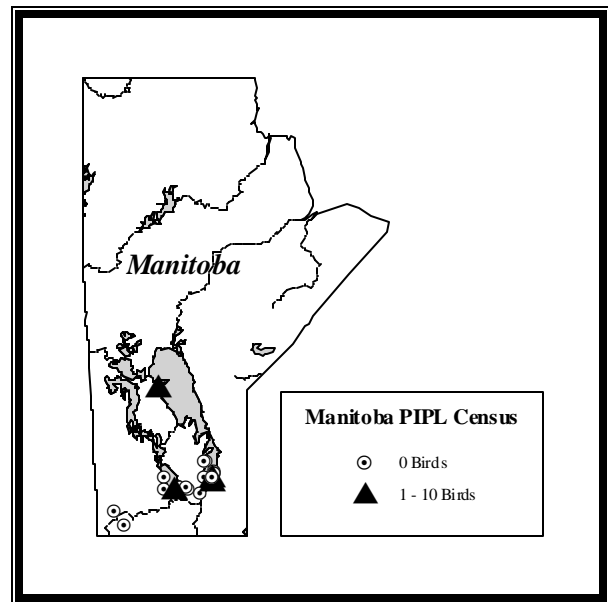
n.r. = not reported

The 2001 International Piping Plover Breeding Census in Manitoba

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Surveys at 23 former and potential sites for Piping Plovers in Manitoba during early to mid June 2001, yielded only four active nesting locations (Gull Bay, Grand Beach and Patricia Beach on Lake Winnipeg, and Clandeboye Bay on Lake Manitoba). Active sites supported 2 to 6 adults. The overall total for 2001 (16 adults, including 7 breeding pairs) was considerably down from the 60 adults observed during the 1996 International Census. High water levels, human disturbance and two early summer storms (mid-May and mid-June) made 2001 an unproductive year and may have negatively influenced the 2001 results.

Manitoba's two largest breeding sites in 1996, West Shoal Lake and Gull Bay, have experienced major population declines over the past few years. Increasing water levels at West Shoal Lake since 1998 resulted in no Piping Plovers being found for a fourth consecutive year, whereas 26 birds were noted in 1996 along the lake's west shoreline and on artificial islands near the south end (now completely flooded). This site will remain unsuitable until water levels drop to pre-1996 levels. However it is possible that some pairs may be using sections of shoreline along the Shoal Lakes that were not checked or may be nesting in partially vegetated shoreline habitat (where they might be difficult to find).



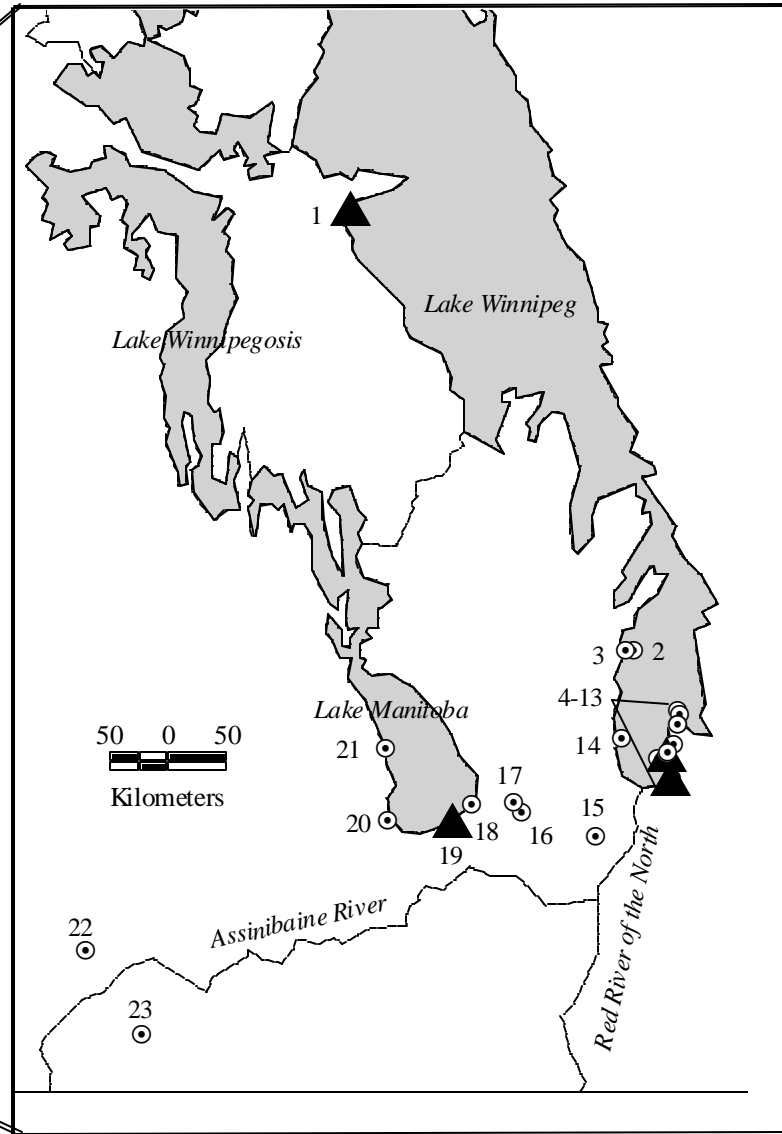
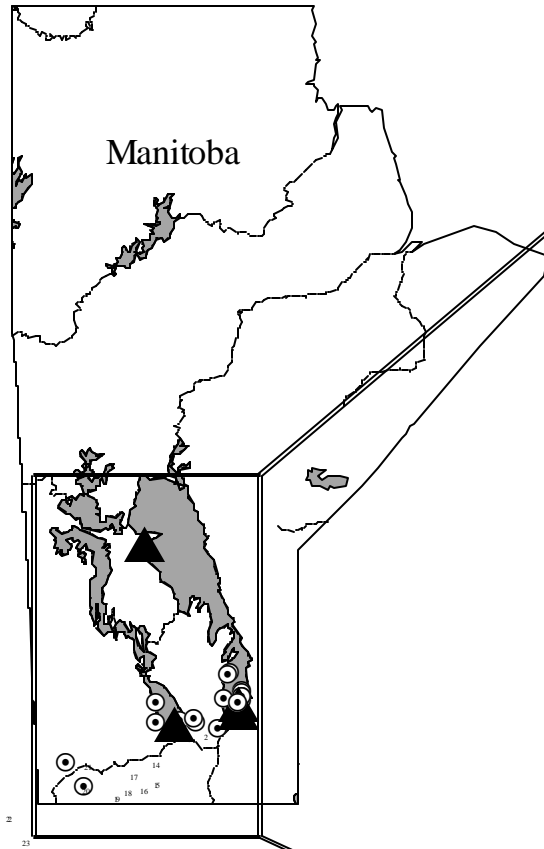
Populations in Gull Bay on Lake Winnipeg also plummeted from 15 birds in 1996 to 3 in 2001. In this instance, there was evidence of intensive ATV use prior to survey, resulting in disturbance along the entire north sand bar. Also, a newly formed gull and tern colony was identified on the southern tip of the north sand bar where the plovers normally nested, forcing the birds to move closer to the local fishermen camp. Gull Bay's south spit was not surveyed due to inclement weather and high lake levels.

Most sites containing breeding activity in 1996 and 1991 were checked for activity during the 2001 census. Other sites that had small numbers of plovers in 1996, but none in 2001, included Hecla Island (Sandy Point), Elk Island, Grand Marais spit, and Riverton Sand Islands (all on Lake Winnipeg). Lack of Piping Plovers at most of these sites is attributed to high lake levels and/or vegetation encroachment. Only two historic breeding sites from 1991, Grand Marais Island and Kawinaw Lake, were missed. Increased effort was put into searching beaches along the south shores of Lake Winnipeg during 2001, but no new breeding sites were identified. Overall efforts in 2001 were lower than for surveys conducted during the 1996 and 1991 censuses (23 sites versus 30 in 1996 and at least 45 in 1991).

Alex Miller (a graduate student at the University of Manitoba) is currently preparing a management plan and recovery strategy for Manitoba, including an analysis of historic sites and other potentially suitable habitat. These analyses may shed some light on whether recent declines in Manitoba are reflective of overall population declines, or if a significant portion of

the population relocates to alternate sites during high water years. Identification of alternate nesting sites along the extensive shorelines of Lake Manitoba and Lake Winnipeg, or potential breeding areas on numerous smaller lakes in the Interlake region would greatly facilitate future survey and management efforts.

2001 International Piping Plover Breeding Census - Manitoba -



Manitoba PIPL Census

○ 0 Birds

▲ 1 - 10 Birds



The 2001 International Piping Plover Breeding Census in Manitoba

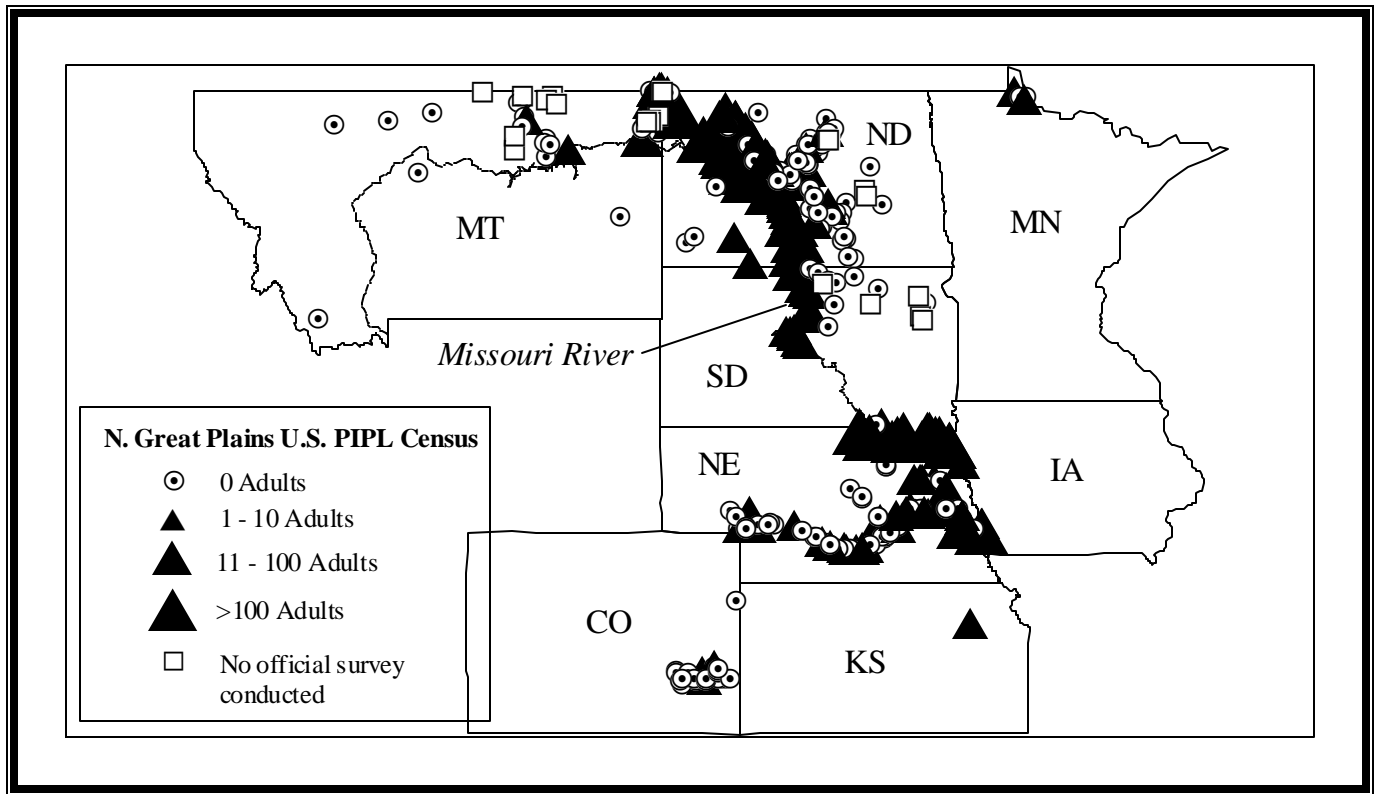
REGION	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Lake Manitoba	Clandeboy Bay	19	6/07	3	6	0.5	VI A 1,6	VI A 1,6	Yes	Yes	s(p)
Lake Manitoba	Hollywood Beach	21	6/06	0	0	0.5	VI A 6		Yes	Yes	s(p)
Lake Manitoba	Lynch Point	20	6/06	0	0	0.5	VI A 6		No	No	s(p)
Lake Manitoba	Twin Lakes Beach	18	6/07	0	0	3.0	VI A 6		Yes	Yes	s(p)
Lake Winnipeg	Albert Beach	9	6/12	0	0	0.5	VI A 6		No	No	m
Lake Winnipeg	Beaconia Beach	13	6/07	0	0	1.6	VI A 1,6,12		Unk	Unk	m
Lake Winnipeg	Elk Island	4	6/21	0	0	4.0	VI E 1,4,6,10,12		Yes	Yes	s(p)
Lake Winnipeg	Fisherman's Warf	10	6/03	0	0	0.8	VI D 2		No	No	s(p)
Lake Winnipeg	Grand Beach	11	6/14	2	5	3.0	II,VI A 1,12	II,VI A 1	Yes	Yes	s(p)
Lake Winnipeg	Gull Bay Sand Spit, north	1	6/05	1	3	6.0	VI B 2,6,13	VI B 2,6,13	Unk	Yes	s(p)
Lake Winnipeg	Hecla Island Sand Spit	2	6/07	0	0	0.5	VI E 2		Yes	Yes	s(p)
Lake Winnipeg	Hillside Beach	6	6/12	0	0	1.0	VI A 1		No	No	m
Lake Winnipeg	Lester Beach	8	6/15	0	0	1.0	VI A 1,6		No	No	m
Lake Winnipeg	Patricia Beach	12	6/07	1	2	2.9	VI A 1,6	VI A 1	Yes	Yes	s(p)
Lake Winnipeg	Riverton Sand Islands	3	6/07	0	0	0.3	VI F 2		Yes	Yes	s(p)
Lake Winnipeg	Sandy Bay	5	6/12	0	0	1.9	VI A 1,10,12		No	No	m
Lake Winnipeg	Victoria Beach	7	6/12	0	0	1.2	VI A 1		No	Yes	s(p)
Lake Winnipeg	Willow Island	14	6/07	0	0	1.0	VI A 6		Yes	Unk	s(p)
Oak Hammock Marsh	Oak Hammock	15	6/04	0	0	0.5	III E 6		Unk	Unk	s(p)
Oak Lake	Oak Lake	22	6/06	0	0	0.5	VI A 1		Yes	Unk	s(p)
Shoal Lakes	West Shoal Lake (south end)	16	6/04	0	0	2.5	VI A 6		Yes	Yes	m
Shoal Lakes	West Shoal Lake (west side point)	17	6/04	0	0	1.0	VI A 6		Yes	Yes	s(p)
Whitewater Lake	Whitewater Lake	23	6/07	0	0	2.0	VI A 6		Yes	No	n.r.
Total				7	16	36.7					

n.r. = not reported

unk = unknown

The 2001 International Piping Plover Breeding Census Results

U.S. Northern Great Plains Overview



Folks in the northern Great Plains often talk about the weather. And why - it is because the weather is constantly changing and never normal. However, it is this annual, seasonal, daily and even hourly change that characterizes what habitats are like for Piping Plovers on the Northern Great Plains. With these changes come changes in habitat availability that are dependent on local weather, hydrological conditions and cycles, and even geological processes. Therefore, plover use on the breeding grounds in the Northern Great Plains is not standard and reflects the natural variation of the Northern Great Plains ecosystem.

The data from the 2001 International Piping Plover Breeding Census and comparisons to the 1991 and 1996 census data reflect the dynamic nature of habitats and habitat conditions in the Northern Great Plains. A perfect example of this dynamic nature is to review plover numbers for the Missouri River. Coming off a drought

period in 1991 that exposed shoreline habitat on Missouri River reservoirs, plover numbers on the Missouri River were at their highest since listing – 625 adults. By 1996, there were extreme flows on the Missouri River that inundated sandbars and shorelines, severely limiting the amount of available habitat. Plover numbers plunged in 1996, to 187 adults. Following 2 historic flood years in 1996 and 1997 the raging Missouri produced an overwhelming picture of what the Missouri River looked like before there were dams. Thousands of acres of islands and sandbars formed and scoured by the flood flows appeared on the Missouri River and the birds responded to this increased availability of habitat. Plover numbers and productivity went up in subsequent years. By 2001, the newly created habitat had been reduced in the riverine portions by more than 50 percent and drought conditions in the upper basin saw reservoir levels plummet creating hundreds of miles of available shoreline

for nesting plovers. Lakes Sakakawea and Lake Oahe in the upper Missouri River basin held record numbers of plovers in 2001. So between 1991 and 2001 there was a 67.7% increase in plovers on the Missouri River and a 460.4% increase between 1996 and 2001.

So what does a 67.7% increase on the Missouri River over a decade mean? If we only look at plover numbers along the Missouri River, it appears plovers are doing well but we really need to look at numbers in context with other plovers in the Northern Great Plains and even the prairies in Canada. If we only look at the U.S. Northern Great Plains, we see a decline of 2.5% between 1991 and 2001, But if we include the Canadian Prairies, that decline is more significant at 14.9%. What this tells us is that in spite of the significant contributions of the Missouri River over the 3 census periods it does not make up for what is a continuing decline across Piping Plover prairie habitats in Canada and the US. Other declines in the U.S. included Nebraska (-22.6% since 1991), Montana (-55.5% since 1991), Minnesota (-46.2% since 1991) and Iowa (-15.4% since 1991). North Dakota prairie habitats outside the

Missouri river showed steady numbers from 1991-1996 but dropped significantly between 1996 and 2001.

Taking the data and trying to make sense of what is happening with a rare species such as the Piping Plover in a highly dynamic environment is not an easy task. There is still much to be learned about Piping Plover movements throughout the Northern Great Plains both within the U.S. between alkali lake habitats and riverine habitats like the Missouri and the Platte. There is also much to be learned about the movement of plovers between the U.S. and Canada. For now though it seems apparent from the data that plover populations continue to decline in spite of localized gains.

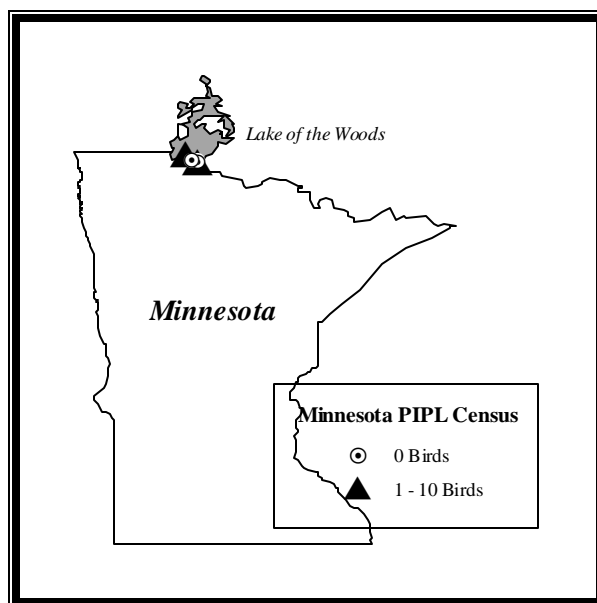
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The 2001 International Piping Plover Breeding Census in Minnesota

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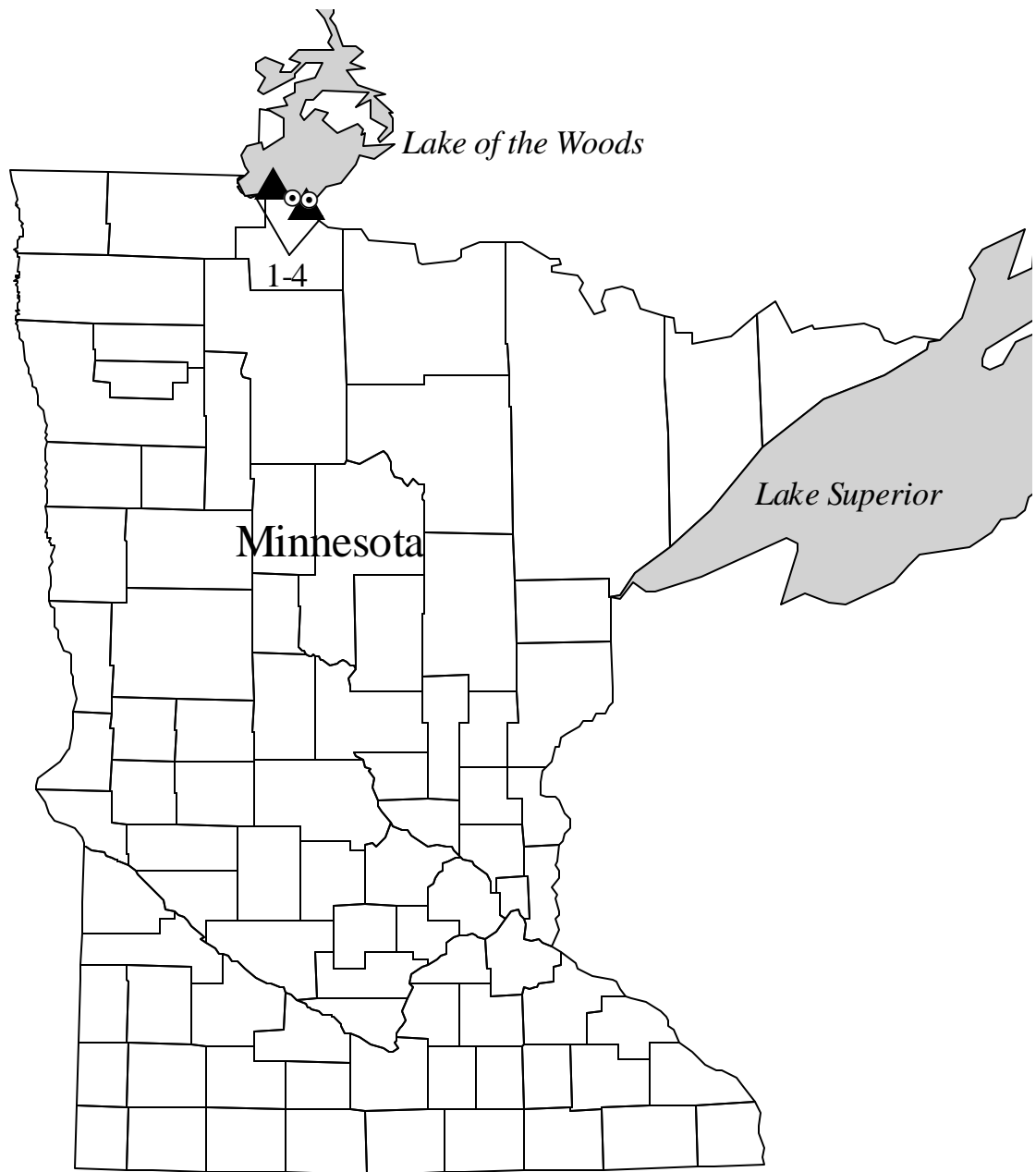
There were several nest attempts by Piping Plovers this year in Minnesota, but the water levels at Lake of the Woods were at their second highest level in 40 years, flooding out much of the suitable habitat.

There was continued erosion of the primary nesting area at Pine and Curry Islands, and only one pair nested in that vicinity (on Morris Point peninsula). However, that nest was flooded and the pair did not re-nest.

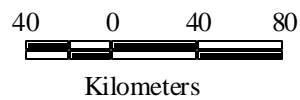
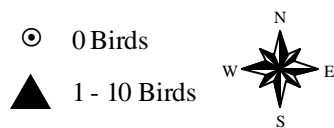


At the alternative nesting area known as Rocky Point Wildlife Management Area, there were a maximum of 5 plovers seen on several visits. A late nest was initiated in early July (presumably after initial wash-outs). Two eggs were observed in the nest but the final outcome is unknown. Thus, we do not believe that any young were fledged in Minnesota during the 2001 breeding season.

2001 International Piping Plover Breeding Census - Minnesota -



Minnesota PIPL Census



The 2001 International Piping Plover Breeding Census in Minnesota

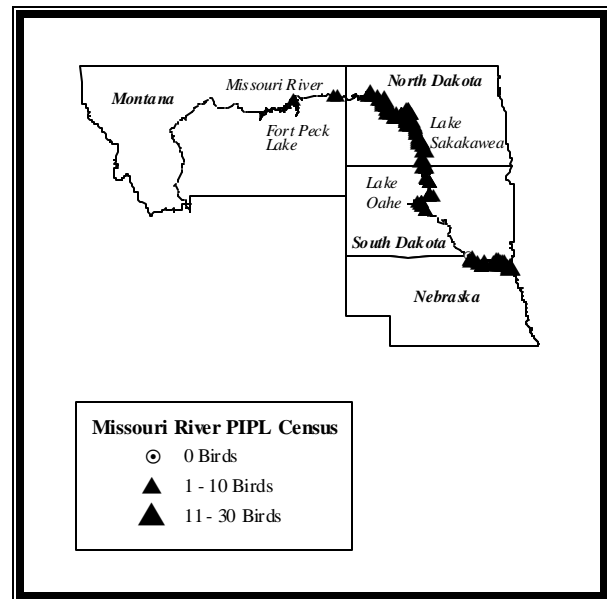
COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Lake of the Woods	Morris Point	3	6/03	1	2	1.2	VI,VIII A 2	VI A 2	Yes	Yes	s(p)
Lake of the Woods	Pine and Curry Islands Scientific and Natural Area	4	6/07	0	0	6.5	VI,VIII E 12		Yes	Yes	s(p)
Lake of the Woods	Rocky Point Wildlife Management Area	1	6/07	2	5	0.8	VI,VIII A 2	VI A 2	Yes	Yes	s(p)
Lake of the Woods	Zippel Bay State Park	2	6/18	0	0	1.0	VI,VIII A 1		Yes	Yes	s(p)
Total				3	7	9.5					

The 2001 International Piping Plover Breeding Census on the Missouri River (MT, ND, SD, and NE)

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All previously known plover sites and suitable habitat on the Missouri River and reservoirs were censused in 2001 and the results adequately represent the actual population. No areas were missed. However, the upper part of Lake Sharpe, located just below Oahe Dam in South Dakota could be considered for future surveys.

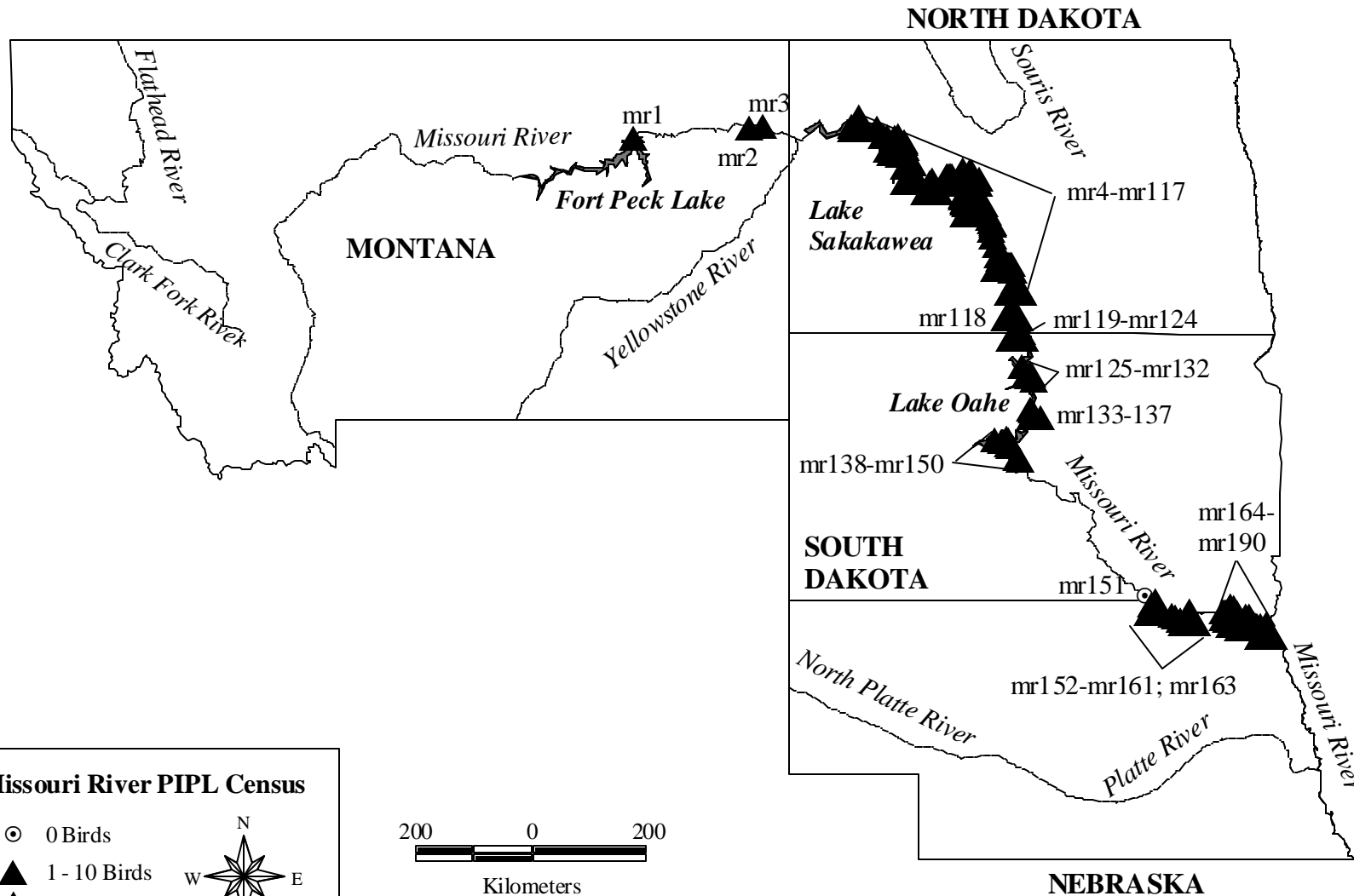
There was a five-fold increase in plover numbers in 2001 (1048 birds) compared to 1996 (185 birds). This was a result of changes in available habitat. In 1996, high spring runoff filled the



reservoirs to capacity and high releases from the dams inundated most of the river habitat downstream from the dams. In 2001, low reservoir levels for Lake Sakakawea and Lake Oahe exposed miles of beach habitat and reduced releases from the dams' exposed sandbar habitat on the Missouri River.

The most important factor affecting Piping Plover numbers on the Missouri River and reservoirs is availability of habitat, both sandbar habitat on the river and beach habitat on the reservoirs. This habitat is lost to sandbar erosion and vegetation growth and needs to be re-established at least once every four years.

2001 International PIPL Breeding Census - Missouri River (MT, ND, SD, NE) -



[Map reference "mr162" was removed due to a site omission]

The 2001 International Piping Plover Breeding Census on the Missouri River

ST	COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
MT	Roosevelt	Missouri River Mile 1620.0	mr3	6/21	0	1	0.2	V D 4	V D 4	Yes	Yes	f
MT	Roosevelt	Missouri River Mile 1637.0	mr2	6/21	1	2	0.2	V D 4	V D 4	Yes	Yes	f
MT	Valley	Fort Peck Lake	mr1	6/18	2	4	0.2	VIII A 1	VIII A 1	Yes	Yes	f
ND	Burleigh	Missouri River Mile 1308.0 (Leech Island)	mr107	6/21	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Burleigh	Missouri River Mile 1310.4 (Barracks)	mr106	6/21	4	8	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Burleigh	Missouri River Mile 1339.3 (Price)	mr100	6/20	3	6	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Burleigh	Missouri River Mile 1344.0 (Carlisle)	mr98	6/20	5	10	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Emmons	Lake Oahe (Dredge Island), Missouri RM 1270.0	mr117	6/19	5	14	0.2	VIII E 1	VIII E 1	Yes	Yes	f
ND	Emmons	Lake Oahe (Fort Rice Island), Missouri RM 1275.0	mr116	6/19	1	2	0.2	VIII E 1	VIII E 1	Yes	Yes	f
ND	Emmons	Lake Oahe (State Line), Missouri RM 1232.2	mr119	6/16	3	6	0.2	VIII E 1	VIII E 1	Yes	Yes	f
ND	McKenzie	Lake Sakakawea - Antelope Creek Game Management Area	mr10	6/25	0	1	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McKenzie	Lake Sakakawea - Antelope Creek Island	mr11	6/25	4	8	0.4	VIII E 4,14	VIII E 4	Yes	No	f
ND	McKenzie	Lake Sakakawea - Charlson Flats	mr8	6/23	1	3	0.8	VIII A 1,14	VIII A 1,14	Yes	Yes	f
ND	McKenzie	Lake Sakakawea - Tobacco Garden Bay	mr4	6/21	1	2	0.4	VIII A 1	VIII A 1	Yes	Yes	f
ND	McLean	Lake Audubon Stessman Marsh	mr81	6/21	2	5	0.2	VIII A 16	VIII A 16	Yes	Yes	f
ND	McLean	Lake Sakakawea - Arikara Bay	mr41	6/19	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Bay of Italy	mr43	6/25	6	12	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Causeway Island 1	mr73	6/21	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Causeway Island 2	mr72	6/21	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Deepwater Bay Complex	mr40	6/19	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Deepwater Bay Island	mr36	6/19	1	2	0.2	VIII E 1,14	VIII E 1	Yes	No	f
ND	McLean	Lake Sakakawea - Deepwater Bay North	mr37	6/19	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Deepwater Bay Peninsula	mr39	6/19	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Deepwater Bay South	mr38	6/19	1	3	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - DeTrobriand Bay	mr61	6/20	6	16	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - DeTrobriand Game Management Area East	mr67	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - DeTrobriand Game Management Area West	mr62	6/17	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - DeTrobriand Island	mr60	6/20	4	8	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Douglas Creek Bay (Big Lake)	mr59	6/22	4	8	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Douglas Creek Bay (East Arm)	mr57	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Douglas Creek Bay (Island #1)	mr55	6/22	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Douglas Creek Bay (Island #3)	mr54	6/22	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Douglas Creek Bay (National Guard Camp)	mr56	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f

The 2001 International Piping Plover Breeding Census on the Missouri River (Continued)

ST	COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
ND	McLean	Lake Sakakawea - Douglas Creek Bay (South Campground)	mr58	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Douglas Creek Bay (West Arm)	mr53	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Elbowwoods Bay	mr44	6/25	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Mallard Island East	mr77	6/24	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Mallard Island North 1	mr75	6/21	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Mallard Island North 2	mr76	6/21	7	14	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Mallard Island South 1	mr80	6/24	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Mallard Island South 2	mr79	6/24	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Nishu Bay	mr45	7/02	0	1	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Pouch Point	mr13	6/19	2	4	0.8	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Ruona Bay	mr42	6/28	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Shell Village Island	mr14	6/19	2	4	0.2	VIII E 1,14	VIII E 1	Yes	No	f
ND	McLean	Lake Sakakawea - Snake Creek Embankment NW	mr71	6/21	5	10	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Snake Creek Embankment SW	mr74	6/21	15	30	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Steinke Bay Island	mr64	6/17	4	8	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Steinke Bay Peninsula	mr66	6/17	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Steinke Bay SW	mr63	6/17	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Steinke Bay West	mr65	6/17	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Van Hook Arm Flag Point	mr35	6/23	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - West Totten Boat Ramp East	mr70	6/21	2	4	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - West Totten Island Complex East	mr69	6/22	4	8	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - West Totten Island Complex West	mr68	6/22	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Lake Sakakawea - Wolf Creek	mr78	6/24	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	McLean	Missouri River Mile 1361.0	mr94	6/19	10	20	1.2	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
ND	McLean	Missouri River Mile 1364.5 (Cow Bar)	mr92	6/17	0	1	0.4	V A 4,6,14	V A 4	Yes	Yes	p
ND	McLean	Missouri River Mile 1370.0	mr87	6/17	0	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	McLean	Missouri River Mile 1381.0	mr82	6/17	0	1	0.4	V D 4,14	V D 14	Yes	Yes	s(p)
ND	Mercer	Lake Sakakawea - Beaver Creek Bay	mr46	6/26	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mercer	Lake Sakakawea - Renner Bay Point 1	mr52	6/23	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mercer	Lake Sakakawea - Renner Bay Point 2	mr51	6/23	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mercer	Lake Sakakawea - Renner Bay Point 3	mr50	6/23	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mercer	Lake Sakakawea - Renner Bay Point 4	mr49	6/23	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f

The 2001 International Piping Plover Breeding Census on the Missouri River (Continued)

ST	COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
ND	Mercer	Lake Sakakawea - Renner Bay Point 5	mr48	6/23	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mercer	Lake Sakakawea - Renner Bay Point 6	mr47	6/23	6	16	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mercer	Missouri River Mile 1369.0 (Basin Island Complex)	mr88	6/17	0	3	0.8	V D 4,12,13,14	V D 4	Yes	Yes	s(p)
ND	Mercer	Missouri River Mile 1374.0	mr86	6/20	2	6	0.4	V D 4,12,13	V D 4	Yes	Yes	s(p)
ND	Mercer	Missouri River Mile 1376.0	mr85	6/20	1	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Mercer	Missouri River Mile 1377.0	mr84	6/17	1	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Mercer	Missouri River Mile 1380.0 (Rerag Island)	mr83	6/17	1	2	0.4	V D 4,12,13,14	V D 4	Yes	Yes	s(p)
ND	Morton	Lake Oahe (Barrels), Missouri RM 1284.0	mr115	6/22	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
ND	Morton	Lake Oahe (Bolen), Missouri RM 1285.4	mr114	6/22	1	2	0.2	VIII E 1	VIII E 1	Yes	Yes	f
ND	Morton	Lake Oahe (Little Joe Flats), Missouri RM 1294.1	mr113	6/21	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
ND	Morton	Lake Oahe (McLean Island), Missouri RM 1291.7	mr111	6/22	4	8	0.2	VIII E 1	VIII E 1	Yes	Yes	f
ND	Morton	Lake Oahe (Rifle Range), Missouri RM 1293.0	mr112	6/21	1	2	0.2	VIII E 1	VIII E 1	Yes	Yes	f
ND	Morton	Missouri River Mile 1301.7 (Double Hook)	mr110	6/21	6	12	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Morton	Missouri River Mile 1302.5	mr109	6/21	5	10	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Morton	Missouri River Mile 1304.0 (Mary's Bend)	mr108	6/21	3	6	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Morton	Missouri River Mile 1319.9	mr105	6/20	4	8	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Morton	Missouri River Mile 1327.7	mr104	6/20	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Morton	Missouri River Mile 1328.0 (North of Sundown Acres)	mr103	6/20	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Mountrail	Lake Sakakawea - Little Field #1	mr15	6/26	3	9	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Little Field #2	mr16	6/26	4	8	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm East #1	mr31	6/23	1	3	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm East #2	mr32	6/23	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm East #3	mr34	6/23	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm East #4	mr33	6/23	4	8	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm Fox Island	mr17	6/21	6	18	0.4	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm North #1	mr24	6/22	3	6	0.3	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm North #2	mr25	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm North #3	mr26	6/22	1	3	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm North #4	mr27	6/22	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm North #5	mr28	6/22	0	1	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm Railroad Bridge	mr20	6/20	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm Rodeo Island East	mr23	6/21	8	16	0.4	VIII E 1,14	VIII E 1	Yes	Yes	f

The 2001 International Piping Plover Breeding Census on the Missouri River (Continued)

ST	COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
ND	Mountrail	Lake Sakakawea - Van Hook Arm Rodeo Island West	mr22	6/21	4	9	0.4	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm Shell Creek	mr29	6/22	2	4	0.8	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm Shell Creek Bay	mr30	6/22	2	4	0.8	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm Sonny's Island	mr21	6/21	0	1	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm West #1	mr18	6/20	6	12	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Mountrail	Lake Sakakawea - Van Hook Arm West #2	mr19	6/20	3	7	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
ND	Oliver	Missouri River Mile 1334.4 (North of Double Ditch)	mr102	6/20	4	8	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Oliver	Missouri River Mile 1338.7 (Price Buttes)	mr101	6/20	1	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Oliver	Missouri River Mile 1341.6 (Wilton Island)	mr99	6/20	1	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Oliver	Missouri River Mile 1348.0 (Painted Woods)	mr97	6/20	1	3	0.8	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Oliver	Missouri River Mile 1356.0	mr96	6/20	3	6	0.8	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Oliver	Missouri River Mile 1358.5	mr95	6/20	1	2	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Oliver	Missouri River Mile 1362.4	mr93	6/19	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Oliver	Missouri River Mile 1364.7	mr91	6/17	1	2	0.4	V D 4,12,13,14	V D 4	Yes	Yes	s(p)
ND	Oliver	Missouri River Mile 1367.0	mr90	6/17	0	1	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
ND	Oliver	Missouri River Mile 1367.5	mr89	6/17	10	20	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
ND	Sioux	Lake Oahe (Porcupine Island), Missouri RM 1248.9	mr118	6/25	8	16	0.2	VIII E 1,10	VIII E 1,10	Yes	Yes	f
ND	Williams	Lake Sakakawea - Beacon Island	mr12	6/17	2	4	0.4	VIII E 4,14	VIII E 4	Yes	Yes	f
ND	Williams	Lake Sakakawea - Hofflund Bay	mr6	6/18	1	2	0.8	VIII A 1	VIII A 1	Yes	Yes	f
ND	Williams	Lake Sakakawea - Hofflund Bay Island	mr7	6/23	5	14	0.8	VIII E 4,13,14	VIII E 4,13	Yes	No	f
ND	Williams	Lake Sakakawea - Little Egypt	mr5	6/18	2	4	0.8	VIII A 1	VIII A 1	Yes	Yes	f
ND	Williams	Lake Sakakawea - White Earth Bay	mr9	6/22	3	6	0.4	VIII A 1,11	VIII A 1	Yes	Yes	f
NE	Dixon	Missouri River Mile 765.0	mr187	6/22	2	4	0.2	V D 4,14	V D 4	Yes	Yes	p
NE	Dixon	Missouri River Mile 769.8	mr184	6/22	1	2	0.8	V A 1	V A 1	Yes	Yes	p
NE	Dixon	Missouri River Mile 769.9	mr183	6/22	0	2	0.2	V A 1	V A 1	Yes	Yes	p
SD	Bon Homme	Lewis & Clark Lake (Bridge Island), Missouri RM 841.5	mr160	6/20	3	6	0.4	VIII D 4	VIII D 4	Yes	Yes	f
SD	Bon Homme	Lewis & Clark Lake (The Complex), Missouri RM 842.0	mr159	6/20	2	4	0.8	VIII D 4	VIII D 4	Yes	Yes	f
SD	Bon Homme	Lewis & Clark Lake, Missouri RM 834.3	mr163	7/13	6	12	0.5	VIII D 4,14	VIII D 4,14	Yes	Yes	f
SD	Bon Homme	Lewis & Clark Lake, Missouri RM 839.0	mr161	6/20	2	4	0.2	VIII D 4	VIII D 4	Yes	Yes	f
SD	Bon Homme	Lewis & Clark Lake, Missouri RM 842.2	mr158	6/20	1	2	0.4	VIII D 4	VIII D 4	Yes	Yes	f
SD	Charles Mix	Missouri River Mile 848.0 (Ponca Creek)	mr157	6/19	4	8	0.4	V D 4,13	V D 4	Yes	Yes	s(p)
SD	Charles Mix	Missouri River Mile 851.7 (Verdel Boat Ramp)	mr156	6/19	4	8	1.6	V D 4,13	V D 4	Yes	Yes	s(p)

The 2001 International Piping Plover Breeding Census on the Missouri River (Continued)

ST	COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
SD	Charles Mix	Missouri River Mile 866.6	mr155	6/18	1	2	0.4	V D 4,13	V D 4	Yes	Yes	s(p)
SD	Charles Mix	Missouri River Mile 866.7 (Lynch Boat Ramp West)	mr154	6/18	6	12	0.4	V D 4,14	V D 4	Yes	Yes	s(p)
SD	Charles Mix	Missouri River Mile 869.0	mr153	6/18	3	6	1.6	V D 4,13	V D 4	Yes	Yes	s(p)
SD	Charles Mix	Missouri River Mile 869.5 (Lynch Trailers)	mr152	6/18	1	2	0.4	V D 4,13	V D 4	Yes	Yes	s(p)
SD	Charles Mix/Gregory/ Brule Lyman	Lake Francis Case	mr151	6/22	0	0	112.9	VIII A 1,14		No	No	f
SD	Clay	Missouri River Mile 768.0	mr185	6/22	3	10	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Clay	Missouri River Mile 772.5	mr182	6/22	0	2	0.2	V D 4,14	V D 4	Yes	Yes	s(p)
SD	Clay	Missouri River Mile 773.0	mr181	6/27	2	6	0.4	V D 4,14	V D 4	Yes	Yes	s(p)
SD	Clay	Missouri River Mile 777.0	mr180	6/27	2	4	0.4	V D 4,14	V D 4	Yes	No	s(p)
SD	Clay	Missouri River Mile 777.7	mr179	6/27	7	14	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Clay	Missouri River Mile 778.0	mr178	6/25	2	4	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Clay	Missouri River Mile 781.5	mr177	6/25	10	30	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Clay	Missouri River Mile 781.7	mr176	6/25	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
SD	Clay	Missouri River Mile 788.5	mr175	6/20	10	20	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Corson	Lake Oahe (Demery Island), Missouri RM 1231.2	mr120	6/16	8	16	0.2	VIII E 1	VIII E 1	Yes	Yes	f
SD	Corson	Lake Oahe (Fort Manuel), Missouri RM 1227.6	mr124	6/20	3	10	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Corson	Lake Oahe (Fort Manuel-Bank), Missouri RM 1228.0	mr123	6/16	3	6	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Corson	Lake Oahe (Kenel Flats), Missouri RM 1230.5	mr121	6/16	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
SD	Corson	Lake Oahe (Kenel), Missouri RM 1230.4	mr122	6/16	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
SD	Corson	Lake Oahe (Le Compte Creek Point North), Missouri RM 1189.3	mr130	6/21	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Corson	Lake Oahe (Le Compte Creek Point), Missouri RM 1188.5	mr131	6/21	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Corson	Lake Oahe (Old Railroad Grade), Missouri RM 1199.5	mr125	6/18	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Dewey	Lake Oahe (Buffalo Point), Missouri RM 1149.3	mr138	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Dewey	Lake Oahe (Cheyenne River Arm-Fish Gut Creek)	mr139	6/18	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Dewey	Lake Oahe (Forest City 2), Missouri RM 1150.5	mr135	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Dewey	Lake Oahe (Forest City 3), Missouri RM 1150.2	mr136	6/19	1	3	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Dewey	Lake Oahe (Forest City 4), Missouri RM 1149.9	mr137	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Dewey	Lake Oahe (Swiftbird Point), Missouri RM 1158.9	mr134	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Dewey	Lake Oahe (Swiftbird South), Missouri RM 1159.4	mr133	6/19	1	3	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Stanley	Lake Oahe (Cheyenne River Arm)	mr140	6/18	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Stanley	Lake Oahe (Mission Island), Missouri RM 1103.0	mr146	6/18	1	2	0.2	VIII E 1	VIII E 1	Yes	Yes	f

The 2001 International Piping Plover Breeding Census on the Missouri River (Continued)

ST	COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
SD	Stanley	Lake Oahe (Mission Point), Missouri RM 1103.0	mr145	6/18	4	8	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Stanley	Lake Oahe (North of Mission Point), Missouri RM 1107.0	mr144	6/18	2	5	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Sully	Lake Oahe (Cow Creek), Missouri RM 1089.0	mr150	6/21	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Sully	Lake Oahe (Dry Creek), Missouri RM 1094.3	mr147	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Sully	Lake Oahe (Little Bend 1), Missouri RM 1109.2	mr143	6/20	2	4	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Sully	Lake Oahe (Little Bend 2), Missouri RM 1109.9	mr142	6/20	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Sully	Lake Oahe (Little Bend 3), Missouri RM 1110.0	mr141	6/20	0	1	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Sully	Lake Oahe (Okobojo), Missouri RM 1089.5	mr149	6/21	2	4	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Sully	Lake Oahe (Plum Creek), Missouri RM 1090.0	mr148	6/19	2	4	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Union	Missouri River Mile 756.7	mr190	6/19	10	26	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Union	Missouri River Mile 757.2	mr189	6/19	6	16	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Union	Missouri River Mile 762.0	mr188	6/19	3	6	0.4	V D 4,14	V D 4	Yes	Yes	s(p)
SD	Union	Missouri River Mile 766.0	mr186	6/22	0	2	0.2	V D 4,14	V D 4	Yes	Yes	s(p)
SD	Walworth	Lake Oahe (Blue Blanket Point), Missouri RM 1190.1	mr126	6/18	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Walworth	Lake Oahe (Blue Blanket Pump), Missouri RM 1190.2	mr128	6/18	2	8	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Walworth	Lake Oahe (Blue Blanket Rec. Area), Missouri RM 1190.1	mr127	6/22	0	1	0.2	VIII A 1	VIII A 1	Yes	Yes	f
SD	Walworth	Lake Oahe (Blue Blanket-East Island), Missouri RM 1188.3	mr129	6/18	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
SD	Walworth	Lake Oahe (Thomas Bay), Missouri RM 1184.5	mr132	6/19	0	1	0.2	VIII E 1	VIII E 1	Yes	Yes	f
SD	Yankton	Missouri River Mile 790.0	mr174	6/20	1	2	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
SD	Yankton	Missouri River Mile 790.9	mr173	6/20	1	2	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
SD	Yankton	Missouri River Mile 794.0	mr172	6/21	2	4	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
SD	Yankton	Missouri River Mile 794.1	mr171	6/21	3	6	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
SD	Yankton	Missouri River Mile 795.3	mr170	6/21	6	12	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Yankton	Missouri River Mile 796.8	mr169	6/21	2	4	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Yankton	Missouri River Mile 797.9	mr168	6/21	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
SD	Yankton	Missouri River Mile 799.0	mr167	6/21	8	16	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
SD	Yankton	Missouri River Mile 801.5	mr166	6/21	4	8	0.4	V D 4,13	V D 4	No	No	s(p)
SD	Yankton	Missouri River Mile 803.0	mr165	6/21	1	2	0.8	V D 4,13	V D 13	Yes	Yes	s(p)
SD	Yankton	Missouri River Mile 804.5	mr164	6/21	2	6	0.8	V D 4,13,14	V D 13	Yes	Yes	s(p)
Total					476	1048	173.5					

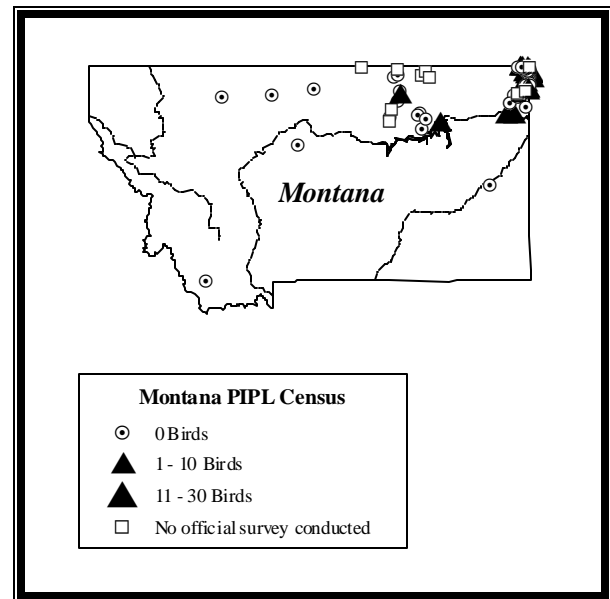
[Map # "mr162" was removed due to a site omission]

The 2001 International Piping Plover Breeding Census in Montana

(off-Missouri River sites)

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Sixty-four sites were surveyed in Montana during the 2001 International Piping Plover Breeding Census, including three along the Missouri River. Fifty-seven breeding pairs were observed (137 total adults). This represents a decline of 10 percent since 1996 (153 birds) and 55 percent since 1991 (308 birds).



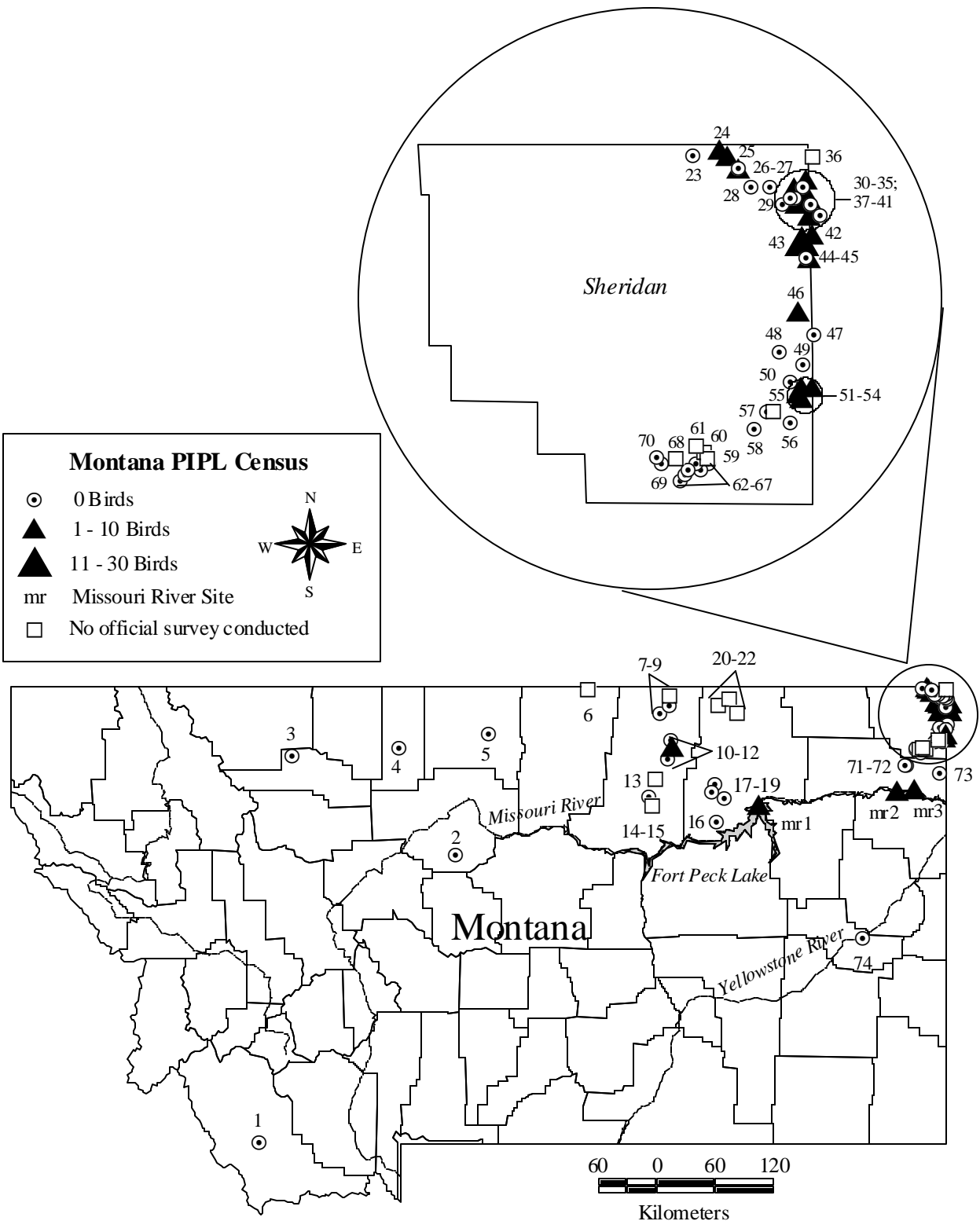
The largest concentration of Piping Plovers was on Flat Lake in Sheridan County – 29 birds.

Twenty-one censusers surveyed four hundred and thirty-one linear kilometers.

Thirteen sites were visited but not officially surveyed due to either flooding of habitat or completely dried up lakes.

Summarized by C. Ferland

2001 International Piping Plover Breeding Census - Montana -



The 2001 International Piping Plover Breeding Census in Montana

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Beaverhead	Clark Canyon Reservoir	1	6/07	0	0	27.4	VIII A 1,6,10,14		Yes	No	f
Blaine	Alkali Lake *	6							Yes	Yes	n.r.
Choteau	Kingsbury Lake WPA	2	6/14	0	0	12.9	IV G 10,16		Yes	Yes	f
Custer/Prairie/ Dawson/Richland	Lower Yellowstone River, Miles City to Crane	74	7/01	0	0	193.0	V A 4,13		Yes	Yes	n.r.
Hill	Fresno Reservoir	5	n.r.	0	0	n.r.	Not specified		Yes	Yes	m
Phillips	Bennett Lake *	13							Yes	Yes	f
Phillips	Bowdoin NWR	12	6/15	0	0	6.5	III,IV G 6,10,14,16		Yes	Yes	f
Phillips	Dibbler Reservoir	9	6/18	0	0	3.2	IV,VIII G 10		Yes	Yes	f
Phillips	Hewitt Lake NWR	10	6/14	0	0	6.5	IV G 6,10,16		Yes	Yes	f/s(p)/p
Phillips	Nelson Reservoir	11	6/14	1	4	7.1	VIII A,E 1,6	VIII E 6	Yes	Yes	f
Phillips	Pea Lake *	7							Yes	Yes	f/s(p)/p
Phillips	Spencer Reservoir	14	6/18	0	0	3.2	IV,VIII G 6,10		Yes	Yes	f
Phillips	Whitcomb Lake *	15							Yes	Yes	n.r.
Phillips	Whitewater Lake	8	6/18	0	0	21.0	IV,VIII G 10,16		Yes	Yes	f
Pondera	Alkali Lake	3	6/21	0	0	4.8	IV A 16		Yes	Yes	t
Roosevelt	Johnson Lake WPA	72	6/01	0	0	3.2	VI A 6,10		Yes	Yes	n.r.
Roosevelt	Missouri River Mile 1620.0	mr3	6/21	0	1	0.2	V D 4	V D 4	Yes	Yes	f
Roosevelt	Missouri River Mile 1637.0	mr2	6/21	1	2	0.2	V D 4	V D 4	Yes	Yes	f
Sheridan	Anderson Lake	37	6/12	1	2	0.5	IV A 6,16	IV A 6,16	No	Yes	s(p)
Sheridan	Berger Pond WPA	57	6/04	0	0	0.4	IV A 6,10		Yes	Yes	f
Sheridan	Big Island, Medicine Lake NWR	66	6/12	0	0	4.0	VI A,E 6		Yes	Yes	f
Sheridan	Big Slough WPA	46	6/07	1	3	2.5	IV A 6,10	IV A 6	Yes	Yes	f/p
Sheridan	Border Lake	47	6/01	0	0	2.8	Not specified		Yes	Yes	p
Sheridan	Bridgerman Point, Medicine Lake NWR	65	6/12	0	0	1.6	VI A 6		Yes	Yes	f
Sheridan	Bruce's Island/Gadwall Island	70	n.r.	0	0	n.r.	Not specified		No	Yes	n.r.
Sheridan	Brush Lake	50	6/14	0	0	0.8	VI A 2,10		Yes	Yes	p
Sheridan	Chandler & Valpone WPA	23	6/06	0	0	3.2	IV A 10		Yes	Yes	f
Sheridan	Clear Lake	48	6/08	0	0	2.4	VI A 1,6,10		Yes	Yes	p
Sheridan	Deep Lake *	60							Yes	Yes	f
Sheridan	Dog Leg	35	6/06	0	0	2.4	IV A 10,13		Yes	Yes	f
Sheridan	Erickson WPA	52	6/08	2	4	2.5	IV A 6,10,16	IV A 6	Yes	Yes	f

The 2001 International Piping Plover Breeding Census in Montana (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Sheridan	Ferguson WPA	31	6/04	0	0	3.2	VI A 6,10,14		Yes	Yes	f
Sheridan	Flat Lake	34	6/07	13	29	13.6	IV A 6,16	IV A 6	Yes	Yes	s(p)/p
Sheridan	Gaffaney Lake *	59							Yes	Yes	n.r.
Sheridan	Galloway's Lake	26	6/06	3	6	5.0	IV A 6,10,16	IV A 6	Yes	Yes	p
Sheridan	Gjesdal East WPA	32	6/18	0	0	0.8	IV A 6,10,16		No	Yes	f
Sheridan	Goose Lake WPA	45	6/01	2	6	8.0	IV A 6,10,16	IV A 6	Yes	Yes	f
Sheridan	Gopher Point *	68							Yes	Yes	n.r.
Sheridan	Gravel Pit *	61							Yes	Yes	n.r.
Sheridan	Haugen Lutnes DSL	30	6/15	0	0	0.8	IV A 10		No	Yes	s(p)
Sheridan	Johnston Lake WPA	71	n.r.	0	0	n.r.	Not specified		Unk	Unk	n.r.
Sheridan	Justice Slough	56	6/14	0	0	2.4	IV A 6,10,16		Yes	Yes	p
Sheridan	Katy's Lake, Medicine Lake NWR	58	6/12	0	0	3.2	VI A 1		Yes	Yes	f
Sheridan	Lake N of Espen WPA	29	6/08	0	0	4.0	IV A 6,10,16		No	Yes	p
Sheridan	Lake N of State Line WPA	38	6/06	3	6	1.6	IV A 6	IV A 6	Yes	Yes	p
Sheridan	Lake SE of Parry WPA	54	6/09	3	6	1.0	IV A 6,16	IV A 6	Yes	Yes	p
Sheridan	Lake SE of Salt	25	6/08	0	1	5.0	IV A 6,10,16	Not specified	No	Yes	p
Sheridan	Lonetree Lake	28	6/14	0	0	1.6	IV A 10,16		Yes	Yes	p
Sheridan	Long Lake *	55							Yes	Yes	f
Sheridan	Long Lake WPA	73	6/04	0	0	0.8	VI A 10		Yes	Yes	f
Sheridan	Melby WPA	49	6/08	0	0	3.2	IV A 10		Yes	Yes	f
Sheridan	Non-WPA Parry	51	n.r.	0	6	n.r.	Not specified	Not specified	Unk	Unk	n.r.
Sheridan	North Bridgerman, Medicine Lake NWR	64	6/12	0	0	2.4	VI A 1,6		Yes	Yes	f
Sheridan	North Goose Lake	44	n.r.	0	0	n.r.	Not specified		Yes	Yes	n.r.
Sheridan	North Lake	40	6/06	2	4	4.0	IV A 6,10,16	IV A 6,16	Yes	Yes	s(p)/p
Sheridan	Northeast WPA *	36							No	Yes	n.r.
Sheridan	Overland Point, Medicine Lake NWR	63	6/15	0	0	0.8	VI A 6		Yes	Unk	f
Sheridan	Parry WPA	53	6/09	3	8	4.5	IV A 6,10,16	IV A 6	Yes	Yes	f/p
Sheridan	Round Lake	41	n.r.	0	0	n.r.	Not specified		Yes	Yes	p
Sheridan	Salt Lake	24	6/08	2	6	15.0	IV A 6,10,16	IV A 6,16	Yes	Yes	s(p)/p
Sheridan	South Bay, Medicine Lake NEW	67	6/12	0	0	3.2	VI A 1		Yes	Yes	f
Sheridan	State Line WPA	39	6/15	0	0	1.6	IV A 10		No	Yes	f

The 2001 International Piping Plover Breeding Census in Montana (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Sheridan	Tax Bay, Medicine Lake NWR	62	6/12	0	0	1.9	VI A 1,6,13		Yes	Yes	f
Sheridan	Throntveit Lake	33	6/07	6	13	10.0	IV A 1,6,10,16	IV A 6	No	Yes	p
Sheridan	West Goose Lake	43	6/07	7	16	8.0	IV A 6,10,16	IV A 6,16	Yes	Yes	s(p)/p
Sheridan	Widgeon Slough WPA	27	6/11	0	0	0.4	IV A 6,10,16		Yes	Yes	f
Sheridan	Young's Island, Medicine Lake NWR	69	6/15	0	0	1.9	VI E 6		Yes	Yes	f
Sheridan/Divide	Upper Goose Lake	42	6/06	5	10	10.0	IV A 6,10,16	IV A 6	Yes	Yes	p
Toole/Liberty	Tiber Reservoir	4	n.r.	0	0	n.r.	Not specified		Yes	Yes	m
Valley	Chambers Coulee Reservoir *	22							No	Yes	n.r.
Valley	Flat Reservoir *	20							Yes	Unk	f
Valley	Fort Peck Lake	mr1	6/18	2	4	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Valley	Grub Reservoir	17	6/29	0	0	n.r.	Not specified		Yes	Yes	f
Valley	Hamm's Reservoir	18	6/29	0	0	n.r.	Not specified		Yes	Yes	f
Valley	Ichpair Slough (Lake Grable) *	21							Yes	Yes	f
Valley	Valley Reservoir	16	6/29	0	0	n.r.	Not specified		Yes	Yes	f/p
Valley	VR-2 Reservoir	19	6/21	0	0	n.r.	Not specified		Yes	Yes	f
Total	(all Montana)			57	137	430.5					
	<i>(Missouri River Subtotal)</i>			<i>(3)</i>	<i>(7)</i>	<i>(1.0)</i>					

* = no official survey conducted

n.r. = not reported

unk = unknown

mr = Missouri River site

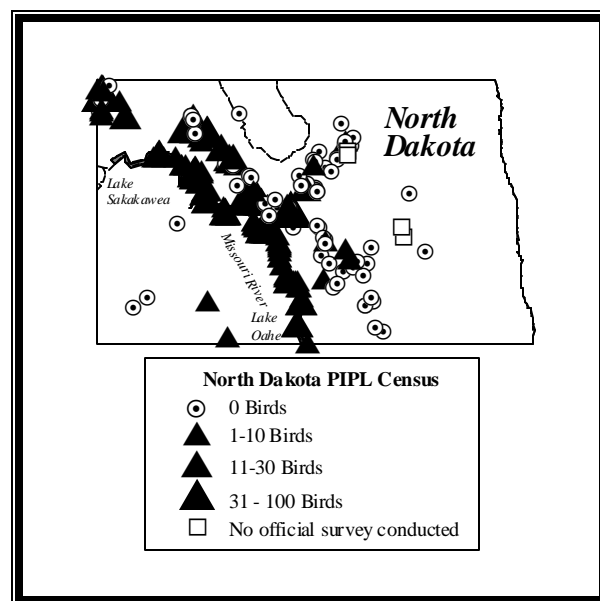
The 2001 International Piping Plover Breeding Census in North Dakota (off-Missouri River sites)

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In 2001, 135 alkali lakes in North Dakota were surveyed for Piping Plovers, compared to 122 alkali lakes in 1996 and approximately 84 alkali lakes in 1991. Several alkali lakes considered single sites in 1991 or 1996 might now be reported as four or five alkali lakes. Therefore, direct comparison of the number of sites surveyed during each census may not be possible. What is important is that almost all historical alkali lake habitat was surveyed and one new site, previously determined to be potential habitat, was surveyed.

Only four sites surveyed in either the 1991 or 1996 International Census were not surveyed in 2001. Sites not surveyed have experienced extremely high water levels and no Piping Plovers have been observed during the last five years. No Piping Plovers have ever been observed at two of the sites not surveyed and only two adults were observed in one year at another site not surveyed.

A total of 469 adult Piping Plovers were censused on North Dakota alkali lakes in 2001, compared to 879 in 1996, and 685 in 1991. Low water levels on Lake Oahe and Lake Sakakawea resulted in hundreds of miles of extensive shoreline habitat attractive to Piping Plovers. Additionally, low water flows in the Missouri River created fairly extensive sandbar and island habitat. Further, water levels on alkali lakes were higher than in 1991 and 1996,



reducing the amount of suitable habitat. As a result, birds appear to have shifted breeding sites from alkali lakes to the Missouri River and associated reservoirs.

In North Dakota, a total of 1,112 adult Piping Plovers were censused in 2001. Of that total, 469 were observed on alkali lakes. The number of adult Piping Plovers censused in North Dakota by region in 1991, 1996, and 2001 is summarized below.

	Number of Adult PIPL in ND		
	1991	1996	2001
Alkali Lakes Region	685	879	469
Missouri River Regions	307	125	643
TOTAL	992	1004	1112

The Fish and Wildlife Service and The Nature Conservancy continue to conduct annual surveys in the U.S. Alkali Lakes Core Area, located in northwestern North Dakota and northeastern Montana. The majority of Piping Plovers breeding on alkali lakes in North Dakota are found in the U.S. Alkali Lakes Core Area. The 2001 surveys indicate that in the U.S. Alkali Lakes Core Area, Piping Plovers declined approximately 90 pairs compared to 2000 and declined approximately 150 pairs compared to 1999. The decline is attributed to a shift in breeding sites from alkali lakes to the Missouri River and associated reservoirs.

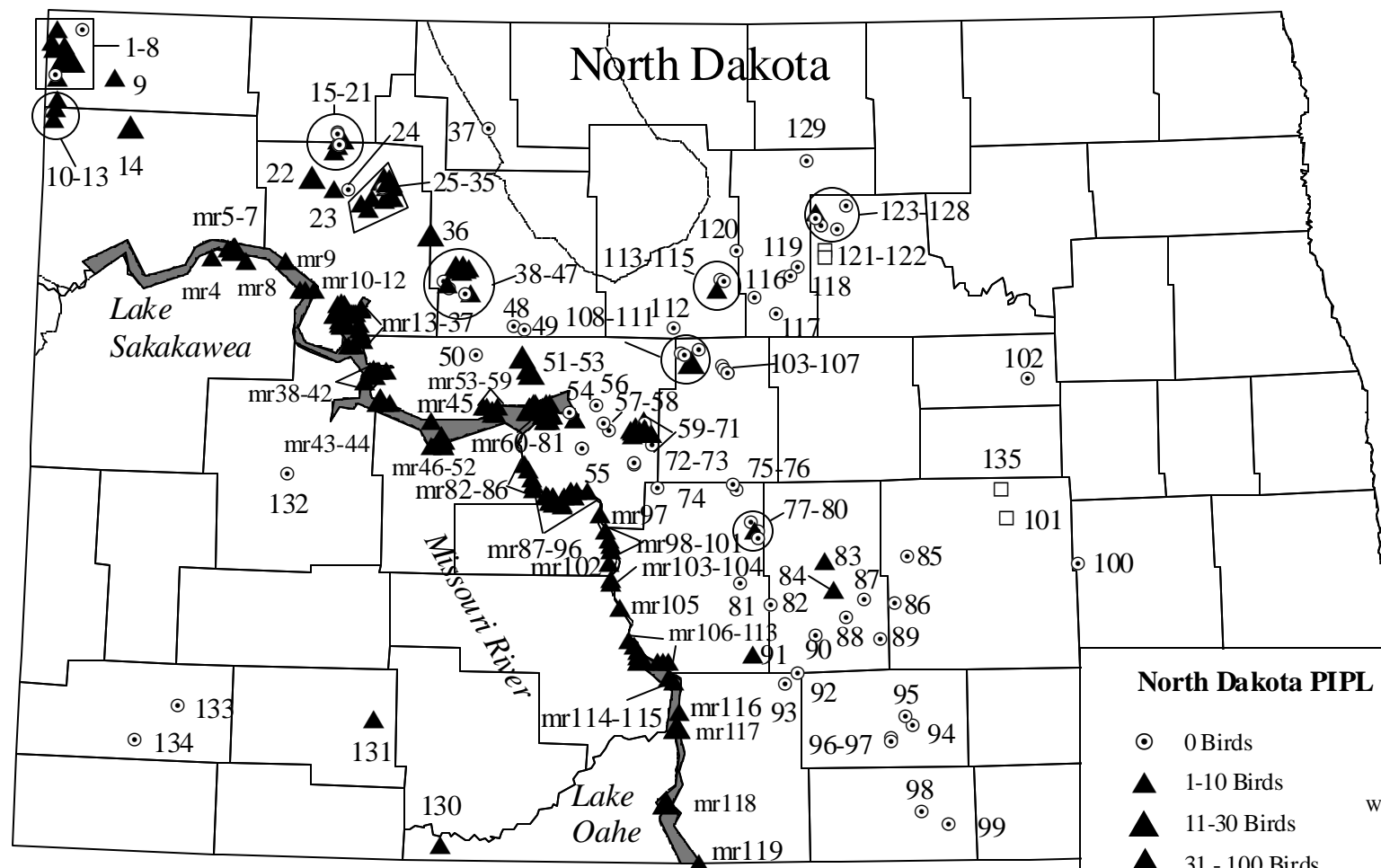
Alkali lakes outside of the U.S. Alkali Lakes Core Area experienced even higher water levels in 2001 compared to alkali lakes within the U.S. Alkali Lakes Core Area.

I believe the results adequately represent the actual population in North Dakota on alkali lakes because all but four of the historic sites that contain the majority of breeding birds were surveyed. The Fish and Wildlife Service and The Nature Conservancy conduct intensive management and monitoring of Piping Plovers in the U.S. Alkali Lakes Core Area, which

contributes to accuracy of the data. Also, the Fish and Wildlife Service and The Nature Conservancy held a training session for staff involved with Piping Plover surveys. This training helps maintain consistency and accuracy in survey methods.

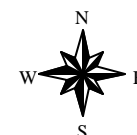
Water level is the most important factor affecting Piping Plover numbers in North Dakota. Predation continues to be the most important factor affecting Piping Plover recruitment.

2001 International Piping Plover Breeding Census - North Dakota -



North Dakota PIPL Census

- 0 Birds
- ▲ 1-10 Birds
- ▲ 11-30 Birds
- ▲ 31 - 100 Birds
- mr Missouri River site
- No official survey conducted



50 0 50
Km

The 2001 International Piping Plover Breeding Census in North Dakota

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Benson	Cranberry Lake *	121									n.r.
Benson	Horseshoe Lake	127	6/14	0	0	5.6	IV A 2,10		Yes	Yes	f/s(p)/p
Benson	Lacher Lake (Dachscher)	128	6/14	0	0	0.2	IV E 10		No	Yes	p
Benson	Long Lake WPA	125	6/14	0	0	9.5	IV A 10		Yes	Yes	f/s(p)/p
Benson	Pfeifer Lake	124	6/14	0	0	0.5	IV A 2,10,16		Yes	Yes	f/p
Benson	Shively WPA	123	6/14	0	1	3.2	IV A 1,6,10,16	IV A 6	Yes	Yes	f
Benson	Simon WPA *	122									n.r.
Benson	Volk WPA	126	6/14	0	0	1.9	IV A 6,10		Yes	Yes	f
Burke	Lostwood NWR - Knudson Slough	16	6/11	0	0	3.7	VI A 10		No	No	f
Burke	Lostwood NWR - School Section Lake	15	6/11	0	0	4.2	IV A 10		Yes	Yes	f
Burke	Lostwood NWR - Upper Lostwood Lake	17	6/06	7	14	10.6	IV A 6,10,16	IV A 6	Yes	Yes	f
Burke/ Montrail	Lostwood NWR - Saltmarsh Wetland	20	6/12	0	0	2.0	IV A 1,6,16		Yes	Yes	f
Burleigh	Hertz Lake	76	6/06	0	0	n.r.	IV A 10		No	Yes	p
Burleigh	Hysterical 02	74	6/06	0	0	n.r.	VI A 10		No	No	p
Burleigh	Lake Arena	80	6/15	0	0	n.r.	IV A 10		Yes	Yes	f/s(p)/p
Burleigh	Long Lake NWR/Long Lake Pool	91	6/07	3	5	49.8	IV,VI F 1,10,13	IV F 13	Yes	Yes	f
Burleigh	Missouri River Mile 1308.0 (Leech Island)	mr107	6/21	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Burleigh	Missouri River Mile 1310.4 (Barracks)	mr106	6/21	4	8	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Burleigh	Missouri River Mile 1339.3 (Price)	mr100	6/20	3	6	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Burleigh	Missouri River Mile 1344.0 (Carlisle)	mr98	6/20	5	10	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Burleigh	Rachel Hoff WPA	78	6/01	1	2	8.7	IV,VI E,F 6,10,11	IV F 11	Yes	Yes	f/p
Burleigh	Rath WPA	77	6/04	0	0	11.8	IV,VI F 10		Yes	Yes	f/p
Burleigh	Salt Lake	75	6/06	0	0	n.r.	IV A 10		No	Yes	p
Burleigh	Trusty	79	6/04	0	0	6.4	IV,VI F 10		Yes	Yes	f/p
Burleigh/ Kidder	Stoney Slough	82	6/06	0	0	n.r.	III,IV A 10		No	No	p
Divide	Camp Lake	10	6/15	4	10	16.8	IV A,E 1,6,10	IV A,E 1,6	No	Yes	s(p)/p
Divide	Daneville Lake	7	6/15	0	0	6.9	IV A 6,10		No	Yes	p
Divide	Daneville Lake SE	8	6/15	1	3	11.0	IV A 10,16	IV A 16	No	No	p
Divide	Hapet Lake	9	6/12	3	6	5.5	IV A 6,10	IV A 6	No	No	s(p)/p
Divide	Johnson WPA	34	6/11	2	4	4.1	IV A,G 6,10,16	IV A 6	No	Yes	f/p

The 2001 International Piping Plover Breeding Census in North Dakota (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Divide	McCone Lake	1	6/16	4	8	8.3	IV A 6,10	IV A 6	No	Yes	p
Divide	Miller Lake	6	6/16	25	50	23.6	IV A,E,G 6,10,16	IV A,E,G 6	Yes	Yes	f/p
Divide	No Name 01	5	6/11	2	4	9.4	IV A,D,E,G 6,10,13,16	IV A,E 6	No	Yes	p
Divide	North Lake/Kreil Wetland	4	6/06	4	8	12.6	IV A,E 6,10,13,16	IV A,E 6,13	Yes	Yes	p
Divide	Radar WPA	2	6/06	0	0	9.6	VI A 10		No	No	f/p
Divide	Round/Westby Lake	3	6/12	2	6	11.8	IV A 1,6,10,16	IV A 6	Yes	Yes	f/s(p)/p
Divide/ Williams	Africa Lake	11	6/19	5	10	16.0	IV A,E 1,6,10	IV A,E 6	No	Yes	p
Dunn	Lake Ilo NWR	132	6/15	0	0	16.0	VIII C 6,10		Yes	Yes	f
Eddy	Lake Coe	102	6/11	0	0	6.5	VI A,E 10		Yes	Yes	s(p)
Emmons	Lake Oahe (Dredge Island), Missouri RM 1270.0	mr117	6/19	5	14	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Emmons	Lake Oahe (Fort Rice Island), Missouri RM 1275.0	mr116	6/19	1	2	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Emmons	Lake Oahe (State Line), Missouri RM 1232.2	mr119	6/16	3	6	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Emmons	Sisco-Fallgetter WPA	92	6/04	0	0	9.2	IV,VI F 10,13		No	Yes	f/p
Kidder	Big Muddy Lake	84	6/12	4	8	n.r.	IV A 10,13	IV A 13	Yes	Yes	f/p
Kidder	Horsehead Lake	83	6/12	1	2	39.6	IV,VI F 10,11,14,16	Not specified	Yes	Yes	s(p)/p
Kidder	Lake Etta	90	6/15	0	0	n.r.	IV A 1,10		No	No	f/p
Kidder	Lake George	89	6/15	0	0	n.r.	IV A 6,10		No	Yes	f/s(p)/p
Kidder	McPhail WMA	87	6/07	0	0	n.r.	III A 10		No	No	p
Kidder	Mud Lake South	93	6/07	0	0	n.r.	IV A 10		No	No	p
Kidder	Sibley Lake	81	6/12	0	0	n.r.	IV A 10,14		Yes	Yes	f/p
Kidder	Spring Lake	88	6/07	0	0	n.r.	IV A 1,6,10		Yes	Yes	f/s(p)/p
Logan	Baltzer WPA	96	6/06	0	0	2.5	IV A 10		Yes	Yes	f/p
Logan	Eberle Lake	94	6/06	0	0	2.0	IV A 10		Yes	Yes	p
Logan	Logan County WMA	97	6/06	0	0	2.0	IV A 10		No	Yes	f/s(p)/p
Logan	Schweigert WPA	95	6/06	0	0	5.0	IV A 10		Yes	Yes	f/p
McHenry	Bromley Lake	115	6/06	0	0	3.2	IV F 6,10		Yes	Yes	f/p
McHenry	Crooked Lake	113	6/06	1	2	2.4	IV F 6,10	IV F 6	Yes	Yes	f/p
McHenry	Lake Lemer	114	6/06	0	0	0.8	IV F 10		Yes	Yes	p
McHenry	Smokey Lake	120	6/07	0	0	6.5	IV F 10		No	No	f/p
McHenry	Spichke WPA	112	6/06	0	0	2.0	IV F 10,14		No	Yes	f/p
McIntosh	McIntosh 02	99	6/06	0	0	3.2	IV A 10		Unk	Yes	p

The 2001 International Piping Plover Breeding Census in North Dakota (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
McIntosh	Turkey Island WPA (West Island)	98	6/06	0	0	3.2	IV A 10		Yes	Yes	f/p
McKenzie	Lake Sakakawea - Antelope Creek Game Management Area	mr10	6/25	0	1	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
McKenzie	Lake Sakakawea - Antelope Creek Island	mr11	6/25	4	8	0.4	VIII E 4,14	VIII E 4	Yes	No	f
McKenzie	Lake Sakakawea - Charlson Flats	mr8	6/23	1	3	0.8	VIII A 1,14	VIII A 1,14	Yes	Yes	f
McKenzie	Lake Sakakawea - Tobacco Garden Bay	mr4	6/21	1	2	0.4	VIII A 1	VIII A 1	Yes	Yes	f
McLean	Blue Lake	68	6/14	0	0	10.0	VI A 1,10		Yes	Yes	f/s(p)/p
McLean	Bluehill WPA	50	6/08	0	0	10.5	IV A 10		No	Yes	f/p
McLean	Cherry Lake	58	6/07	0	0	9.8	IV A 1,10		No	Yes	f/p
McLean	Crystal Lake	51	6/11	7	14	6.7	IV A 10,11	IV A 10,11	Yes	Yes	f/p
McLean	Engel Lake	53	6/08	6	12	2.5	IV A 1,6,10,16	IV A 6	Yes	Yes	s(p)/p
McLean	Fischer Lake	73	6/11	0	0	4.8	VI A 10		No	Yes	f
McLean	Fisher Lake (Laibs Marsh)	72	6/11	0	0	3.7	VI A 10		Yes	Yes	f/p
McLean	Gaub WPA	71	6/11	0	0	3.4	VI A 10		Yes	Yes	f/p
McLean	John E. Williams Preserve - Amoeba Lake	64	6/15	3	6	0.9	IV A,F 6	IV F 6	Yes	Yes	p
McLean	John E. Williams Preserve - Elbow Lake	66	6/15	4	8	2.5	IV A,F 6	IV F 6	Yes	Yes	p
McLean	John E. Williams Preserve - Lake Williams	61	6/15	1	2	14.7	IV A,F 6	IV F 6	Yes	Yes	f/s(p)/p
McLean	John E. Williams Preserve - Mud Lake	63	6/15	2	4	0.5	IV F 6	IV F 6	Yes	Unk	p
McLean	John E. Williams Preserve - Paramecium Lake	62	6/15	1	2	0.7	IV A,F 6	IV F 6	Yes	Yes	p
McLean	John E. Williams Preserve - Pelican Lake	67	6/15	22	47	11.8	IV A,F 6	IV F 6	Yes	Yes	f/p
McLean	John E. Williams Preserve - Peterson Lake	65	6/15	12	23	13.0	IV A,F 6	IV F 6	Yes	Yes	f/s(p)
McLean	John E. Williams Preserve - Spot Lake	69	6/15	8	14	3.5	IV A,F 6	IV F 6	Yes	Yes	p
McLean	John E. Williams Preserve - Tractor Lake	70	6/15	2	4	n.r.	IV F 6	IV F 6	Yes	Yes	s(p)/p
McLean	Lake Audubon National Wildlife Refuge	54	6/09	0	0	n.r.	VIII A,B,C,D,E 1,6,10,14		Unk	Unk	f
McLean	Lake Audubon Stessman Marsh	mr81	6/21	2	5	0.2	VIII A 16	VIII A 16	Yes	Yes	f
McLean	Lake Nettie	56	6/06	0	0	7.9	VI A 10		Yes	Yes	f/p
McLean	Lake Sakakawea - Arikara Bay	mr41	6/19	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Bay of Italy	mr43	6/25	6	12	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Causeway Island 1	mr73	6/21	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Causeway Island 2	mr72	6/21	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Deepwater Bay Complex	mr40	6/19	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Deepwater Bay Island	mr36	6/19	1	2	0.2	VIII E 1,14	VIII E 1	Yes	No	f
McLean	Lake Sakakawea - Deepwater Bay North	mr37	6/19	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f

The 2001 International Piping Plover Breeding Census in North Dakota (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
McLean	Lake Sakakawea - Deepwater Bay Peninsula	mr39	6/19	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Deepwater Bay South	mr38	6/19	1	3	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - DeTrobriand Bay	mr61	6/20	6	16	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - DeTrobriand Game Management Area East	mr67	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - DeTrobriand Game Management Area West	mr62	6/17	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - DeTrobriand Island	mr60	6/20	4	8	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
McLean	Lake Sakakawea - Douglas Creek Bay (Big Lake)	mr59	6/22	4	8	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Douglas Creek Bay (East Arm)	mr57	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Douglas Creek Bay (Island #1)	mr55	6/22	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
McLean	Lake Sakakawea - Douglas Creek Bay (Island #3)	mr54	6/22	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
McLean	Lake Sakakawea - Douglas Creek Bay (National Guard Camp)	mr56	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Douglas Creek Bay (South Campground)	mr58	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Douglas Creek Bay (West Arm)	mr53	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Elbowwoods Bay	mr44	6/25	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Mallard Island East	mr77	6/24	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
McLean	Lake Sakakawea - Mallard Island North 1	mr75	6/21	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
McLean	Lake Sakakawea - Mallard Island North 2	mr76	6/21	7	14	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
McLean	Lake Sakakawea - Mallard Island South 1	mr80	6/24	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Mallard Island South 2	mr79	6/24	1	2	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
McLean	Lake Sakakawea - Nishu Bay	mr45	7/02	0	1	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Pouch Point	mr13	6/19	2	4	0.8	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Ruona Bay	mr42	6/28	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Shell Village Island	mr14	6/19	2	4	0.2	VIII E 1,14	VIII E 1	Yes	No	f
McLean	Lake Sakakawea - Snake Creek Embankment NW	mr71	6/21	5	10	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Snake Creek Embankment SW	mr74	6/21	15	30	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Steinke Bay Island	mr64	6/17	4	8	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
McLean	Lake Sakakawea - Steinke Bay Peninsula	mr66	6/17	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Steinke Bay SW	mr63	6/17	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Steinke Bay West	mr65	6/17	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Van Hook Arm Flag Point	mr35	6/23	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - West Totten Boat Ramp East	mr70	6/21	2	4	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - West Totten Island Complex East	mr69	6/22	4	8	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f

The 2001 International Piping Plover Breeding Census in North Dakota (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
McLean	Lake Sakakawea - West Totten Island Complex West	mr68	6/22	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	Lake Sakakawea - Wolf Creek	mr78	6/24	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
McLean	McGinnis WPA	52	6/06	0	1	4.2	IV A,C 1,6,10	Not specified	No	No	f/p
McLean	Missouri River Mile 1361.0	mr94	6/19	10	20	1.2	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
McLean	Missouri River Mile 1364.5 (Cow Bar)	mr92	6/17	0	1	0.4	V A 4,6,14	V A 4	Yes	Yes	p
McLean	Missouri River Mile 1370.0	mr87	6/17	0	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
McLean	Missouri River Mile 1381.0	mr82	6/17	0	1	0.4	V D 4,14	V D 14	Yes	Yes	s(p)
McLean	Reclaimed Wetland R-23-2, Falkirk Mining Co.	59	n.r.	0	0	0.4	Not specified		No	Yes	p
McLean	Reclaimed Wetland R-23-3, Falkirk Mining Co.	60	n.r.	0	0	0.8	Not specified		No	Yes	p
McLean	Turtle Lake	57	6/07	0	0	24.2	VI A 1,10		Yes	Yes	f/p
Mercer	Lake Sakakawea - Beaver Creek Bay	mr46	6/26	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mercer	Lake Sakakawea - Renner Bay Point 1	mr52	6/23	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mercer	Lake Sakakawea - Renner Bay Point 2	mr51	6/23	3	6	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mercer	Lake Sakakawea - Renner Bay Point 3	mr50	6/23	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mercer	Lake Sakakawea - Renner Bay Point 4	mr49	6/23	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mercer	Lake Sakakawea - Renner Bay Point 5	mr48	6/23	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mercer	Lake Sakakawea - Renner Bay Point 6	mr47	6/23	6	16	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mercer	Missouri River - Rerag Island	mr83	6/17	1	2	0.4	V D 4,12,13,14	V D 4	Yes	Yes	s(p)
Mercer	Missouri River Mile 1369.0 (Basin Island Complex)	mr88	6/17	0	3	0.8	V D 4,12,13,14	V D 4	Yes	Yes	s(p)
Mercer	Missouri River Mile 1374.0	mr86	6/20	2	6	0.4	V D 4,12,13	V D 4	Yes	Yes	s(p)
Mercer	Missouri River Mile 1376.0	mr85	6/20	1	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Mercer	Missouri River Mile 1377.0	mr84	6/17	1	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Morton	Lake Oahe (Barrels), Missouri RM 1284.0	mr115	6/22	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Morton	Lake Oahe (Bolen), Missouri RM 1285.4	mr114	6/22	1	2	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Morton	Lake Oahe (Little Joe Flats), Missouri RM 1294.1	mr113	6/21	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Morton	Lake Oahe (McLean Island), Missouri RM 1291.7	mr111	6/22	4	8	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Morton	Lake Oahe (Rifle Range), Missouri RM 1293.0	mr112	6/21	1	2	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Morton	Missouri River Mile 1301.7 (Double Hook)	mr110	6/21	6	12	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Morton	Missouri River Mile 1302.5	mr109	6/21	5	10	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Morton	Missouri River Mile 1304.0 (Mary's Bend)	mr108	6/21	3	6	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Morton	Missouri River Mile 1319.9	mr105	6/20	4	8	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Morton	Missouri River Mile 1327.7	mr104	6/20	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)

The 2001 International Piping Plover Breeding Census in North Dakota (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Morton	Missouri River Mile 1328.0 (North of Sundown Acres)	mr103	6/20	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Mountrail	BLM 01 (Idaho WPA)	25	6/04	1	3	3.3	IV A 1,6,10	IV A 1	No	Yes	f/p
Mountrail	Cottonwood Lake	22	6/06	5	11	17.5	IV A 4,6,10,13,16	IV A 10,13,16	Yes	Yes	f/s(p)/p
Mountrail	Halvorson WPA North	27	6/04	0	1	12.3	IV,VI A 6,10	IV A 6	Yes	Yes	f/p
Mountrail	Lake Sakakawea - Little Field #1	mr15	6/26	3	9	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Little Field #2	mr16	6/26	4	8	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm #3	mr34	6/23	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm East #1	mr31	6/23	1	3	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm East #2	mr32	6/23	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm East #4	mr33	6/23	4	8	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm Fox Island	mr17	6/21	6	18	0.4	VIII E 1,14	VIII E 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm North #1	mr24	6/22	3	6	0.3	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm North #2	mr25	6/22	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm North #3	mr26	6/22	1	3	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm North #4	mr27	6/22	2	4	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm North #5	mr28	6/22	0	1	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm Railroad Bridge	mr20	6/20	1	2	0.2	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm Rodeo Island East	mr23	6/21	8	16	0.4	VIII E 1,14	VIII E 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm Rodeo Island West	mr22	6/21	4	9	0.4	VIII E 1,14	VIII E 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm Shell Creek	mr29	6/22	2	4	0.8	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm Shell Creek Bay	mr30	6/22	2	4	0.8	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm Sonny's Island	mr21	6/21	0	1	0.2	VIII E 1,14	VIII E 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm West #1	mr18	6/20	6	12	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lake Sakakawea - Van Hook Arm West #2	mr19	6/20	3	7	0.4	VIII A 1,14	VIII A 1	Yes	Yes	f
Mountrail	Lostwood NWR - Lower Lostwood Lake	21	6/11	1	2	9.9	IV A 6,10,16	IV A 6	Yes	Yes	f
Mountrail	Lostwood NWR - Piping Plover Wetland	18	6/11	3	6	1.1	IV A 6,10,16	IV A 6	Yes	Yes	f
Mountrail	Palermo Lake	29	6/06	1	2	6.2	IV A 16	IV A 16	Yes	Yes	p
Mountrail	Palermo Lake SW	26	6/07	1	3	3.5	IV A 10,16	IV A 16	Yes	Yes	f/p
Mountrail	Piping Plover WPA	28	6/06	4	8	3.2	IV A 10,16	IV A 16	Yes	Yes	f/p
Mountrail	Redmond Lake East	33	6/06	7	14	2.6	IV A 6	IV A 6	Yes	Yes	s(p)/p
Mountrail	Redmond Lake North	131	6/04	2	4	3.2	IV A 16	IV A 16	Yes	Yes	p
Mountrail	Redmond Lake SE	32	6/12	9	18	8.4	IV A 10,16	IV A 16	Yes	Yes	f/p

The 2001 International Piping Plover Breeding Census in North Dakota (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Mountrail	Redmond Lake South	31	6/04	0	0	8.3	IV A 10,16		Yes	Yes	p
Mountrail	Redmond Lake/Goettle Wetland	35	6/04	6	12	14.1	IV A 10,16	IV A 16	Yes	Yes	s(p)/p
Mountrail	USA 01/USA 01 SE/Bieri Wetland	30	6/04	1	4	3.4	IV A 6,10,16	IV A 6,16	Unk	Yes	f/p
Mountrail	USA 02 (ND 02) WPA	24	6/06	0	0	9.8	VI A 10		Yes	No	f/s(p)/p
Mountrail	USA 03 (US#1 F&G)	36	6/06	4	11	9.6	IV A 10,16	IV A 16	Yes	Yes	f/p
Mountrail	White Lake	23	6/12	4	9	12.0	IV A 6,10,16	IV A 16	Yes	Yes	p
Montrail/ Burke	Lostwood NWR - Phalarope Wetland	19	6/12	0	0	2.9	IV A 1,6,10,16		Yes	Yes	f
Oliver	Missouri River Mile 1334.4 (North of Double Ditch)	mr102	6/20	4	8	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Oliver	Missouri River Mile 1338.7 (Price Buttes)	mr101	6/20	1	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Oliver	Missouri River Mile 1341.6 (Wilton Island)	mr99	6/20	1	2	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Oliver	Missouri River Mile 1348.0 (Painted Woods)	mr97	6/20	1	3	0.8	V D 4,13,14	V D 4	Yes	Yes	s(p)
Oliver	Missouri River Mile 1356.0	mr96	6/20	3	6	0.8	V D 4,13,14	V D 4	Yes	Yes	s(p)
Oliver	Missouri River Mile 1358.5	mr95	6/20	1	2	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
Oliver	Missouri River Mile 1362.4	mr93	6/19	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Oliver	Missouri River Mile 1364.7	mr91	6/17	1	2	0.4	V D 4,12,13,14	V D 4	Yes	Yes	s(p)
Oliver	Missouri River Mile 1367.0	mr90	6/17	0	1	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
Oliver	Missouri River Mile 1367.5	mr89	6/17	10	20	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Pierce	Little Antelope Lake	117	6/09	0	0	n.r.	IV A 10		Yes	Yes	f/p
Pierce	Meyer WPA	129	6/09	0	0	n.r.	IV A,E 10		Unk	Yes	f/s(p)/p
Pierce	Orrin Lake	116	6/09	0	0	n.r.	IV A 10		Yes	Yes	p
Pierce	Petrified Lake	118	6/09	0	0	n.r.	IV A		Yes	Yes	p
Pierce	Sandhill Crane WPA	119	6/09	0	0	0.8	IV A 10,16		Yes	Yes	f/p
Renville	Upper Souris NWR (Lake Darling)	37	6/21	0	0	56.5	V,VIII A 1,6,10		Yes	Yes	f
Sheridan	Kandt Lake	111	6/07	0	0	6.9	IV A 10		Yes	Yes	p
Sheridan	Kreuger Lake	108	6/07	6	12	1.7	IV A 6,10	IV A 6,10	Yes	Yes	p
Sheridan	Lonetree WMA - Avocet Lake	106	6/14	0	0	1.9	VI A 10		Yes	Yes	s(p)
Sheridan	Lonetree WMA - Gadwall Lake	105	6/14	0	0	2.5	VI A 10		Yes	Yes	s(p)
Sheridan	Lonetree WMA - New Lake	107	6/14	0	0	5.5	VI A 10		Yes	Yes	s(p)
Sheridan	Lonetree WMA - Other Lake	104	6/14	0	0	2.1	VI A 10		Yes	Yes	s(p)
Sheridan	Lonetree WMA - Plover Pond	103	6/14	0	0	0.8	VI A 10,11		Yes	Yes	s(p)
Sheridan	Moesner Lake	109	6/07	0	0	6.0	IV A 6,10		Yes	Yes	p

The 2001 International Piping Plover Breeding Census in North Dakota (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Sheridan	Strasburg WPA	110	6/09	0	0	2.2	IV A 10		No	Yes	f/p
Sioux	Lake Oahe (Porcupine Island), Missouri RM 1248.9	mr118	6/25	8	16	0.2	VIII E 1,10	VIII E 1,10	Yes	Yes	f
Slope	Stewart Lake NWR	134	6/12	0	0	7.7	VIII A 1,6,10,11		Yes	Yes	f
Slope	White Lake NWR	133	6/12	0	0	5.4	VIII A 1,10,11		Yes	Yes	f
Stutsman	Arrowwood NWR - Jim Lake *	101									f
Stutsman	Arrowwood NWR - Lake Arrowwood *	135									f
Stutsman	Chase Lake NWR	100	6/07	0	0	22.6	IV A 6,10		Yes	Yes	f
Stutsman	Mud Lake	85	6/12	0	0	24.2	IV A 10		Yes	Yes	f/p
Stutsman	Stink Lake 01	86	6/09	0	0	6.5	IV A 6,10,11		Yes	Yes	f/s(p)/p
Ward	Danielson WPA	49	6/06	0	0	6.4	VI A,C 10		No	Yes	f
Ward	Foss Lake	48	6/15	0	0	2.0	IV A 1,6,14,16		No	Yes	p
Ward	Galusha WPA	44	6/04	1	2	2.9	IV A 9	IV A 9	No	Yes	f/p
Ward	LGFR Pond	46	6/08	0	0	12.5	IV A 16		Yes	No	p
Ward	Middle Lake	39	6/07	0	1	3.0	IV A 1,6,10,14,16	IV A 1,6	No	No	p
Ward	One Legged Lake	41	6/04	1	2	1.5	IV A 6,16	IV A 6	No	No	p
Ward	Orlien WPA	130	6/04	4	8	4.6	IV A,E 6,16	IV A,E 6,16	No	Yes	f/p
Ward	Roberts Lake	47	6/04	2	4	1.8	IV A 6,16	IV A 6,16	Yes	Yes	p
Ward	Schaefer Lake	40	6/04	10	21	6.4	IV A 1,6,16	IV A 1,6,16	Yes	Yes	p
Ward	Simonson Hall	42	6/07	2	4	1.7	IV A 1,6,10,14,16	IV A 6	Yes	Yes	p
Ward	Ward 01	45	6/04	0	0	1.6	IV G 11,16		Yes	Yes	p
Ward	Weltikol WPA	43	6/04	0	0	4.1	IV A,E 10,16		No	Yes	f/p
Ward	Wheeler Wetland	38	6/07	5	13	3.0	IV A 1,6,10,14,16	IV A 6,16	No	Yes	p
Williams	Appam Lake	14	6/15	6	12	16.4	IV A,E 1,6,10	IV A,E 6	Yes	Yes	f/p
Williams	Lake Sakakawea - Beacon Island	mr12	6/17	2	4	0.4	VIII E 4,14	VIII E 4	Yes	Yes	f
Williams	Lake Sakakawea - Hofflund Bay	mr6	6/18	1	2	0.8	VIII A 1	VIII A 1	Yes	Yes	f
Williams	Lake Sakakawea - Hofflund Bay Island	mr7	6/23	5	14	0.8	VIII E 4,13,14	VIII E 4,13	Yes	No	f
Williams	Lake Sakakawea - Little Egypt	mr5	6/18	2	4	0.8	VIII A 1	VIII A 1	Yes	Yes	f
Williams	Lake Sakakawea - White Earth Bay	mr9	6/22	3	6	0.4	VIII A 1,11	VIII A 1	Yes	Yes	f
Williams	Stink Lake 02	12	6/08	0	0	4.7	IV A 1,6,10,16		No	Yes	p
Williams	Twin Lake	13	6/08	1	2	14.4	IV A 6,10,16	IV A 6	No	Yes	s(p)/p
Total	All of North Dakota			522	1112	901.7					
	<i>(Missouri River Subtotal)</i>			<i>[298]</i>	<i>[643]</i>	<i>[36]</i>					

* = no official survey conducted

n.r. = not reported

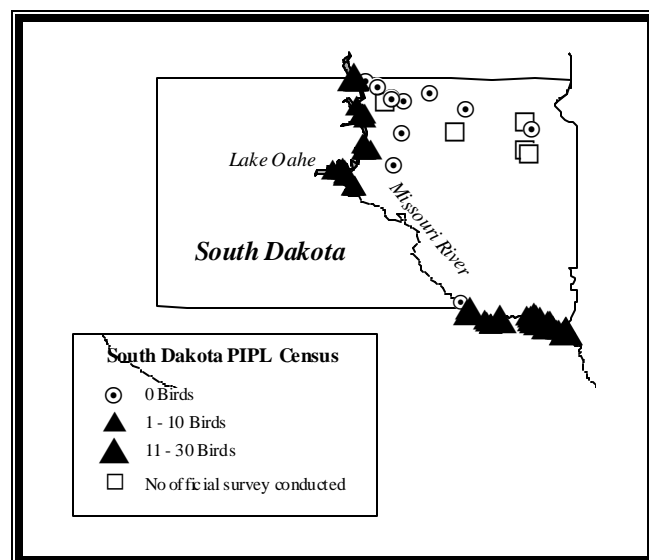
unk = unknown

mr = Missouri River site

The 2001 International Piping Plover Breeding Census in South Dakota (off-Missouri River sites)

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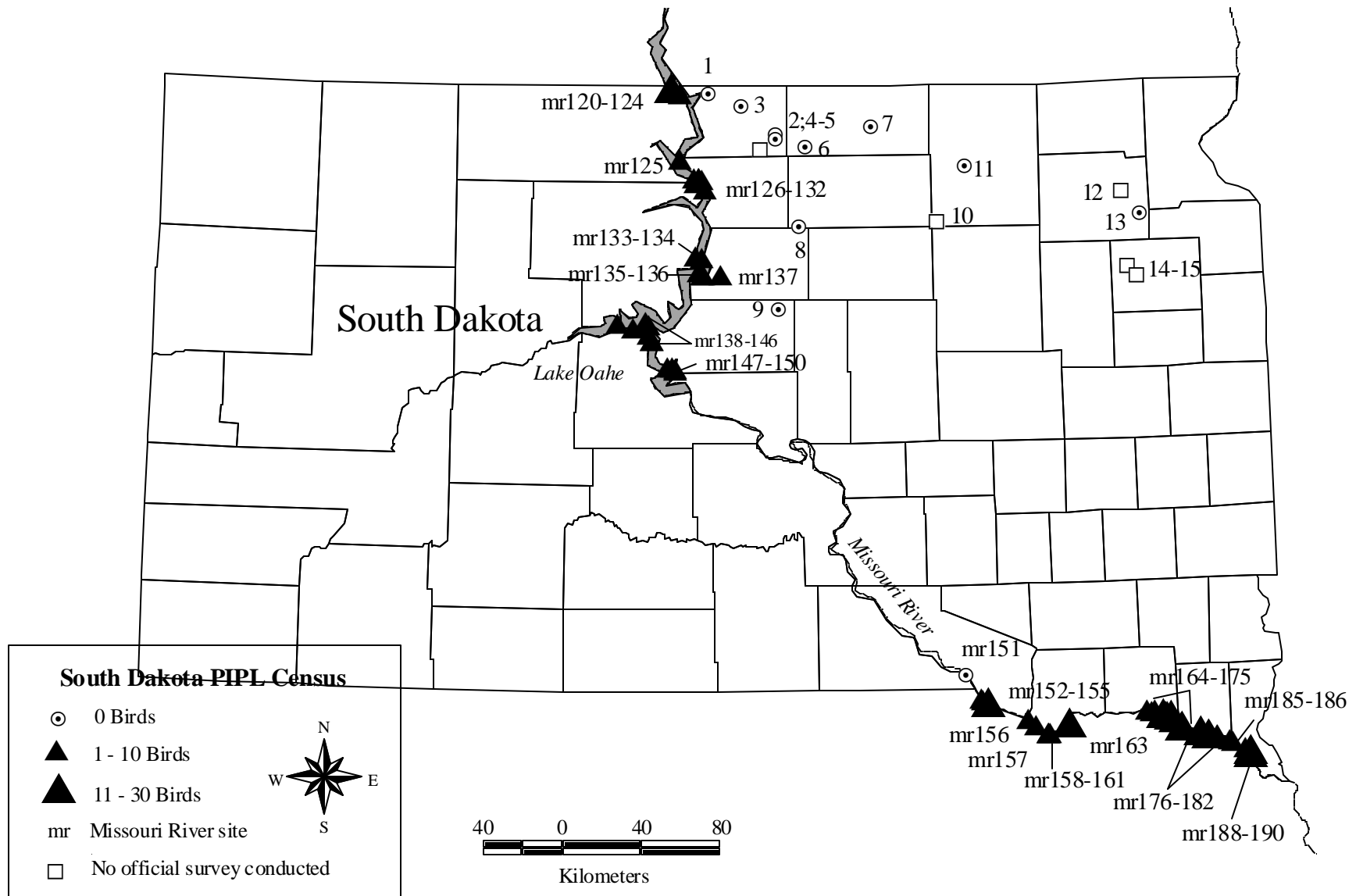
Since historic times we have documented very few nesting Piping Plovers at “off Missouri River” sites in South Dakota. We searched known historical and potential habitats at “off Missouri River” sites in 1991 and repeated this effort in 1996, with the exception of Lake Thompson in Kingsbury County and Angostura Reservoir in Fall River County. In 2001, we repeated the survey effort from 1996. Many sites were observed with high water levels in the 2001 survey effort. Thus high water limited habitat at all sites and at most sites high water



eliminated all shoreline habitat.

During the 2001 census effort, no Piping Plovers were found at “off Missouri river” sites. To further verify these results, notification was sent to the South Dakota Birds Discussion Group list serve inviting anyone to report any Piping Plovers observed during the census window. No reports were made during this time for “off Missouri river” sites. Therefore, no new sites have been discovered.

2001 International Piping Plover Breeding Census - South Dakota -



The 2001 International Piping Plover Breeding Census in South Dakota

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWNER
Bon Homme	Lewis & Clark Lake (Bridge Island), Missouri RM 841.5	mr160	6/20	3	6	0.4	VIII D 4	VIII D 4	Yes	Yes	f
Bon Homme	Lewis & Clark Lake (The Complex), Missouri RM 842.0	mr159	6/20	2	4	0.8	VIII D 4	VIII D 4	Yes	Yes	f
Bon Homme	Lewis & Clark Lake, Missouri RM 834.3	mr163	7/13	6	12	0.5	VIII D 4,14	VIII D 4,14	Yes	Yes	f
Bon Homme	Lewis & Clark Lake, Missouri RM 839.0	mr161	6/20	2	4	0.2	VIII D 4	VIII D 4	Yes	Yes	f
Bon Homme	Lewis & Clark Lake, Missouri RM 842.2	mr158	6/20	1	2	0.4	VIII D 4	VIII D 4	Yes	Yes	f
Brown	Proud Waterfowl Production Area	11	6/15	0	0	0.8	IV A 10		Yes	Yes	f
Brown	Salt Lake *	10	6/15						Yes	Yes	s(p)
Campbell	Goetz Waterfowl Production Area	3	6/15	0	0	6.5	IV A 10		Yes	Yes	f
Campbell	Hwy. 10	2	6/07	0	0		Not specified		Yes	Yes	n.r.
Campbell	Pocasse NWR	1	6/14	0	0	3.2	VIII A 1,10		Yes	Yes	f
Campbell	Salt Lake *	4	6/15						Yes	Yes	s(p)
Campbell	West Flat Lake	5	6/07	0	0		Not specified		Yes	Yes	f
Charles Mix	Missouri River Mile 848.0 (Ponca Creek)	mr157	6/19	4	8	0.4	V D 4,13	V D 4	Yes	Yes	s(p)
Charles Mix	Missouri River Mile 851.7 (Verdel Boat Ramp)	mr156	6/19	4	8	1.6	V D 4,13	V D 4	Yes	Yes	s(p)
Charles Mix	Missouri River Mile 866.6	mr155	6/18	1	2	0.4	V D 4,13	V D 4	Yes	Yes	s(p)
Charles Mix	Missouri River Mile 866.7 (Lynch Boat Ramp West)	mr154	6/18	6	12	0.4	V D 4,14	V D 4	Yes	Yes	s(p)
Charles Mix	Missouri River Mile 869.0	mr153	6/18	3	6	1.6	V D 4,13	V D 4	Yes	Yes	s(p)
Charles Mix	Missouri River Mile 869.5 (Lynch Trailers)	mr152	6/18	1	2	0.4	V D 4,13	V D 4	Yes	Yes	s(p)
CM/Gregory/ Brule Lyman	Lake Francis Case	mr151	6/22	0	0	112.9	VIII A 1,14		No	No	f
Clay	Missouri River Mile 768.0	mr185	6/22	3	10	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Clay	Missouri River Mile 772.5	mr182	6/22	0	2	0.2	V D 4,14	V D 4	Yes	Yes	s(p)
Clay	Missouri River Mile 773.0	mr181	6/27	2	6	0.4	V D 4,14	V D 4	Yes	Yes	s(p)
Clay	Missouri River Mile 777.0	mr180	6/27	2	4	0.4	V D 4,14	V D 4	Yes	No	s(p)
Clay	Missouri River Mile 777.7	mr179	6/27	7	14	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Clay	Missouri River Mile 778.0	mr178	6/25	2	4	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Clay	Missouri River Mile 781.5	mr177	6/25	10	30	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Clay	Missouri River Mile 781.7	mr176	6/25	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Clay	Missouri River Mile 788.5	mr175	6/20	10	20	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Codington	Horseshoe Lake/Medicine Lake *	15	6/15						Yes	Yes	s(p)
Codington	Lake Nicholson *	14	6/15						Yes	Yes	s(p)
Corson	Lake Oahe (Demery Island), Missouri RM 1231.2	mr120	6/16	8	16	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Corson	Lake Oahe (Fort Manuel), Missouri RM 1227.6	mr124	6/20	3	10	0.2	VIII A 1	VIII A 1	Yes	Yes	f

The 2001 International Piping Plover Breeding Census in South Dakota (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWNER
Corson	Lake Oahe (Fort Manuel-Bank), Missouri RM 1228.0	mr123	6/16	3	6	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Corson	Lake Oahe (Kenel Flats), Missouri RM 1230.5	mr121	6/16	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Corson	Lake Oahe (Kenel), Missouri RM 1230.4	mr122	6/16	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Corson	Lake Oahe (Le Compte Crk. Pt. N.), Missouri RM 1189.3	mr130	6/21	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Corson	Lake Oahe (Le Compte Creek Point), Missouri RM 1188.5	mr131	6/21	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Corson	Lake Oahe (Old Railroad Grade), Missouri RM 1199.5	mr125	6/18	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Day	Bitter Lake	13	6/12	0	0	11.3	IV A 1,10		Yes	Yes	s(p)/p
Day	Waubay Lake *	12	6/15						Yes	Yes	s(p)
Dewey	Lake Oahe (Buffalo Point), Missouri RM 1149.3	mr138	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Dewey	Lake Oahe (Cheyenne River Arm-Fish Gut Creek)	mr139	6/18	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Dewey	Lake Oahe (Forest City 2), Missouri RM 1150.5	mr135	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Dewey	Lake Oahe (Forest City 3), Missouri RM 1150.2	mr136	6/19	1	3	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Dewey	Lake Oahe (Forest City 4), Missouri RM 1149.9	mr137	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Dewey	Lake Oahe (Swiftbird Point), Missouri RM 1158.9	mr134	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Dewey	Lake Oahe (Swiftbird South), Missouri RM 1159.4	mr133	6/19	1	3	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Edmunds	Alkali Lake	8	6/15	0	0	11.3	IV A 6,10		No	Yes	f
McPherson	Kempf Waterfowl Production Area	7	6/15	0	0	2.4	IV A 10		Yes	Yes	f
McPherson	Melhoff Island Waterfowl Production Area	6	6/15	0	0	6.5	IV A 10		Yes	Yes	f
Stanley	Lake Oahe (Cheyenne River Arm)	mr140	6/18	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Stanley	Lake Oahe (Mission Island), Missouri RM 1103.0	mr146	6/18	1	2	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Stanley	Lake Oahe (Mission Point), Missouri RM 1103.0	mr145	6/18	4	8	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Stanley	Lake Oahe (N. of Mission Point), Missouri RM 1107.0	mr144	6/18	2	5	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Sully	Lake Oahe (Cow Creek), Missouri RM 1089.0	mr150	6/21	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Sully	Lake Oahe (Dry Creek), Missouri RM 1094.3	mr147	6/19	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Sully	Lake Oahe (Little Bend 1), Missouri RM 1109.2	mr143	6/20	2	4	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Sully	Lake Oahe (Little Bend 2), Missouri RM 1109.9	mr142	6/20	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Sully	Lake Oahe (Little Bend 3), Missouri RM 1110.0	mr141	6/20	0	1	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Sully	Lake Oahe (Okobojo), Missouri RM 1089.5	mr149	6/21	2	4	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Sully	Lake Oahe (Plum Creek), Missouri RM 1090.0	mr148	6/19	2	4	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Sully	NE Sully Waterfowl Production Area	9	6/07	0	0	n.r.	Not specified		Yes	Yes	n.r.
Union	Missouri River Mile 756.7	mr190	6/19	10	26	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Union	Missouri River Mile 757.2	mr189	6/19	6	16	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)

The 2001 International Piping Plover Breeding Census in South Dakota (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWNER
Union	Missouri River Mile 762.0	mr188	6/19	3	6	0.4	V D 4,14	V D 4	Yes	Yes	s(p)
Union	Missouri River Mile 766.0	mr186	6/22	0	2	0.2	V D 4,14	V D 4	Yes	Yes	s(p)
Walworth	Lake Oahe (Blue Blanket Point), Missouri RM 1190.1	mr126	6/18	1	2	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Walworth	Lake Oahe (Blue Blanket Pump), Missouri RM 1190.2	mr128	6/18	2	8	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Walworth	Lake Oahe (Blue Blanket Rec. Area), Missouri RM 1190.1	mr127	6/22	0	1	0.2	VIII A 1	VIII A 1	Yes	Yes	f
Walworth	Lake Oahe (Blue Blanket-East Island), Missouri RM 1188.3	mr129	6/18	2	4	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Walworth	Lake Oahe (Thomas Bay), Missouri RM 1184.5	mr132	6/19	0	1	0.2	VIII E 1	VIII E 1	Yes	Yes	f
Yankton	Missouri River Mile 790.0	mr174	6/20	1	2	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
Yankton	Missouri River Mile 790.9	mr173	6/20	1	2	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
Yankton	Missouri River Mile 794.0	mr172	6/21	2	4	0.2	V D 4,13,14	V D 4	Yes	Yes	s(p)
Yankton	Missouri River Mile 794.1	mr171	6/21	3	6	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Yankton	Missouri River Mile 795.3	mr170	6/21	6	12	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Yankton	Missouri River Mile 796.8	mr169	6/21	2	4	0.4	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Yankton	Missouri River Mile 797.9	mr168	6/21	2	4	0.4	V D 4,13,14	V D 4	Yes	Yes	s(p)
Yankton	Missouri River Mile 799.0	mr167	6/21	8	16	0.8	V D 4,13,14	V D 4,13	Yes	Yes	s(p)
Yankton	Missouri River Mile 801.5	mr166	6/21	4	8	0.4	V D 4,13	V D 4	No	No	s(p)
Yankton	Missouri River Mile 803.0	mr165	6/21	1	2	0.8	V D 4,13	V D 13	Yes	Yes	s(p)
Yankton	Missouri River Mile 804.5	mr164	6/21	2	6	0.8	V D 4,13,14	V D 13	Yes	Yes	s(p)
Total	(all South Dakota)			172	390	177.8					
	<i>(Missouri River sites)</i>			<i>(172)</i>	<i>(390)</i>	<i>(136.0)</i>					

* = no official survey conducted

n.r. = not reported

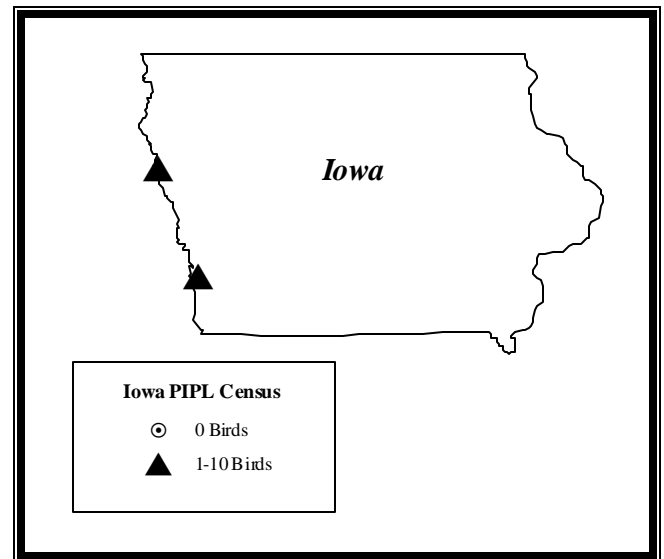
mr = Missouri River site

The 2001 International Piping Plover Breeding Census in Iowa

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Des Moines, IA 50319-0034
515.281.8524
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All known Piping Plover habitat was censused.

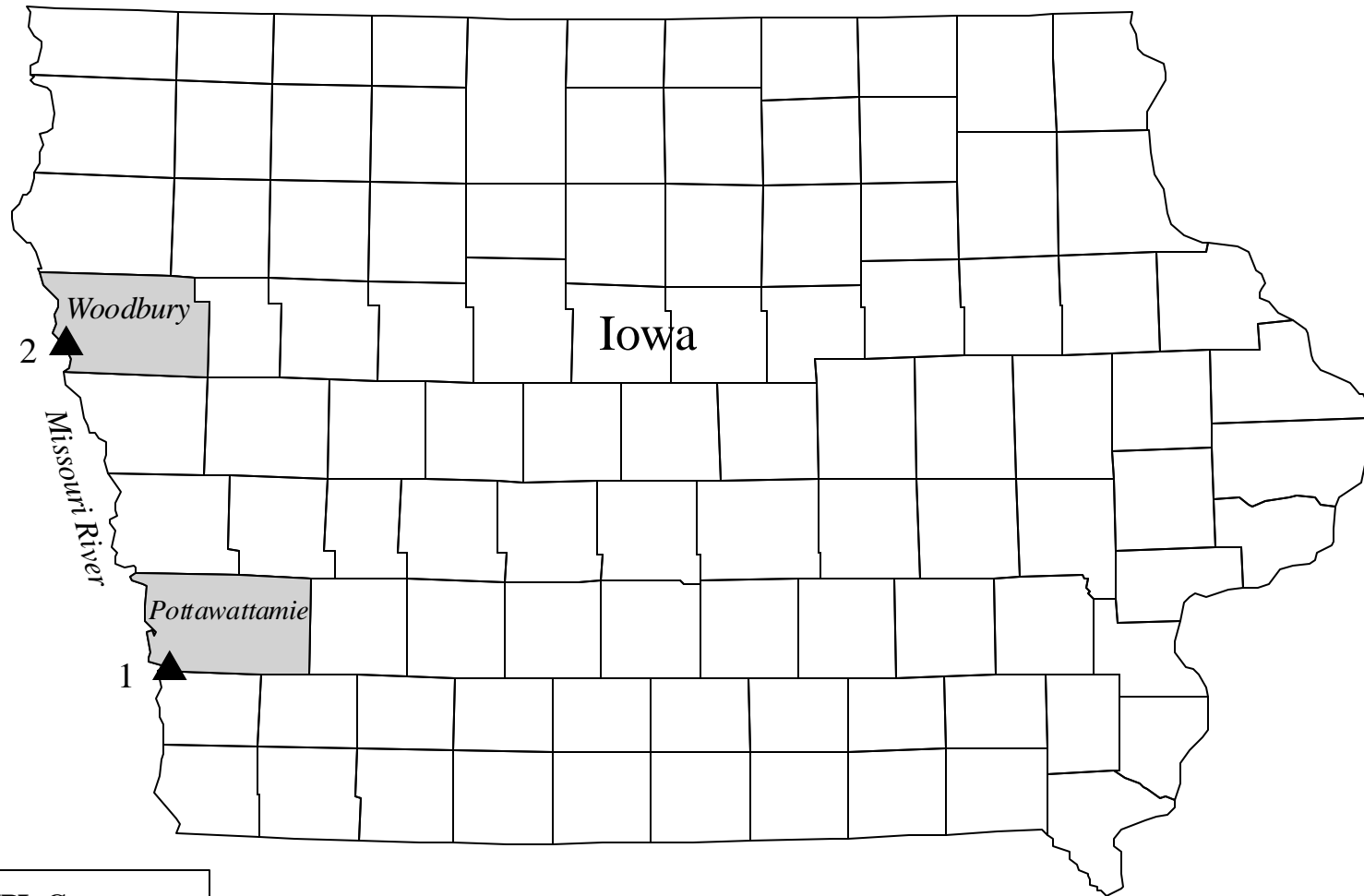
I believe the results represent the number of pairs in Iowa because these are small isolated areas.



Piping Plover numbers were down at the Sioux City site.

I am not sure what factors are responsible for the changes we observe in the number of pairs.

2001 International Piping Plover Breeding Census - Iowa -



Iowa PIPL Census

⊙ 0 Birds

▲ 1-10 Birds



30 0 30 60



Kilometers

The 2001 International Piping Plover Breeding Census in Iowa

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Pottawatomie	MidAmerican Energy Plant	1	6/14	3	6	0.8	VII A 11	VII A 11	Yes	Yes	p
Woodbury	MidAmerica Energy, Neal North	2	6/10	2	5	1.6	VII A,F 11	VII F 11	Yes	Yes	p
Total				5	11	2.4					

The 2001 International Piping Plover Breeding Census in Nebraska

(off-Missouri River sites)

John Dinan

Nebraska Game and Parks Commission

Box 30370

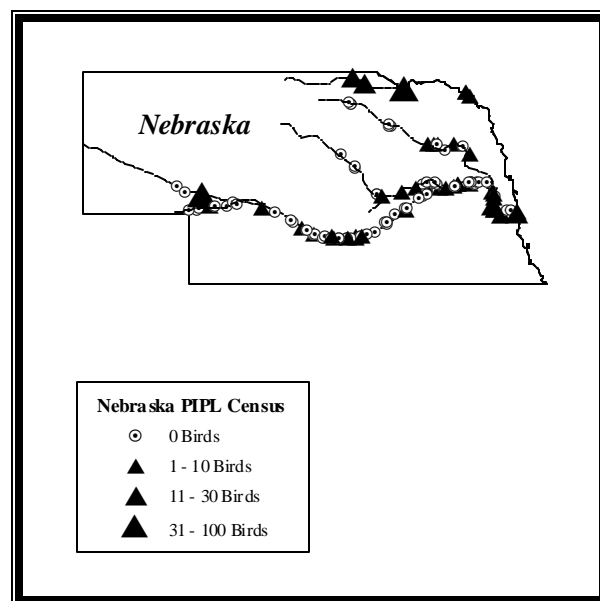
Lincoln, NE 68503

402.471.5440

jdinan@ngpc.state.ne.us

All known areas with potential habitat in Nebraska were surveyed in 2001 including all locations where Piping Plovers were present during the 1991 and 1996 International Censuses. Additional areas surveyed in 2001, but not during the two previous censuses' include sandbars along the lower portion of the Elkhorn River and several sandpit locations along the Elkhorn, Platte, and North Loup Rivers. Survey activities began on 5 June 2001 and were concluded for all sites in the state by 22 June 2001.

Survey participants included personnel from the Nebraska Game and Parks Commission, U.S. Fish and Wildlife Service, Nebraska Public Power District, Central Nebraska Public Power and Irrigation District, the Tern and Plover Conservation Partnership, and several volunteers. The Corps of Engineers conducted surveys to census plovers and terns on the Missouri River along the border of Nebraska and South Dakota. A total of 465 miles of river were surveyed by airboat and 105 miles by canoe. Thirty-two miles of reservoir shoreline were surveyed by boat and 97 sand and gravel pit sites were surveyed by vehicle and on foot. Piping Plovers occurred at 35 sandbar sites, 29 sandpit sites, and at several shoreline locations along Lake McConaughy's shoreline. Twenty-five percent (75 adults) of these Piping Plovers



occurred at sand pits, 24% (73 adults) occurred along reservoir shoreline and 51% (152 adults) occurred at river sandbars.

In 2001, 308 Piping Plovers were counted in Nebraska. This represents a decrease of 18% and 23% from the 1996 (375 adults) and 1991 (398 adults) census totals, respectively.

Percent change in Piping Plovers censused between 1991 and 2001 by river drainage include: North Platte (+12%), South Platte (+100%), upper Platte (-29%), central Platte (-61%), lower Platte (-8%), Loup (+33%), Elkhorn (+81%), North Loup (-80%), and the Niobrara (-46%). Percent changes of Piping Plovers censused between 1996 and 2001 by river drainage include: North Platte (+6%), South Platte (0%), upper Platte (-79%), central Platte (-60%), lower Platte (+15%), Loup (-28%), Elkhorn (-8%), North Loup (-50%), and the Niobrara (-18%).

The most important factors affecting Piping Plover numbers in Nebraska are habitat related. The availability of nesting sandbars is determined by river flows, thus variations in annual river flows result in variations in sandbar habitat available for nesting. This is to be expected based on observations on the few naturally functioning rivers and river reaches like the Niobrara, lower Platte, and a portion of

the Loup where large numbers of plovers are typically found. Fluctuations in the number of birds colonizing these rivers have also been observed. If these river reaches can continue to function naturally, more nesting habitat would be expected to occur in certain years and plovers would be expected to respond accordingly.

Unlike the above mentioned rivers, elimination of naturally occurring sandbars in the central and upper Platte rivers forces all of the nesting to occur on sand pits adjacent to the river or on a few artificially created sites in the river. Some have suggested that plover numbers could be maintained in these river reaches at these stable and managed sites. However, even with intensive management at nesting sites in the central Platte for the past decade, the 1991, 1996 and 2001 International Census' indicate that plover numbers are declining in this area.

Another area of high plover concentrations is the North Platte River, specifically the shorelines of a large reservoir, Lake McConaughy. Since this is an irrigation reservoir, the amount of nesting habitat varies annually and seasonally with fluctuating lake levels. As expected, the number of plovers nesting along the shoreline also fluctuates but numbers have been steady during International Census years.

Fewer plovers using the South Platte, North Loup and Elkhorn rivers are associated primarily with sand pits for nesting. The occurrence of birds in these areas will remain entirely dependent on the activity of the sand and gravel mining industry and the amount of nesting substrate that results.

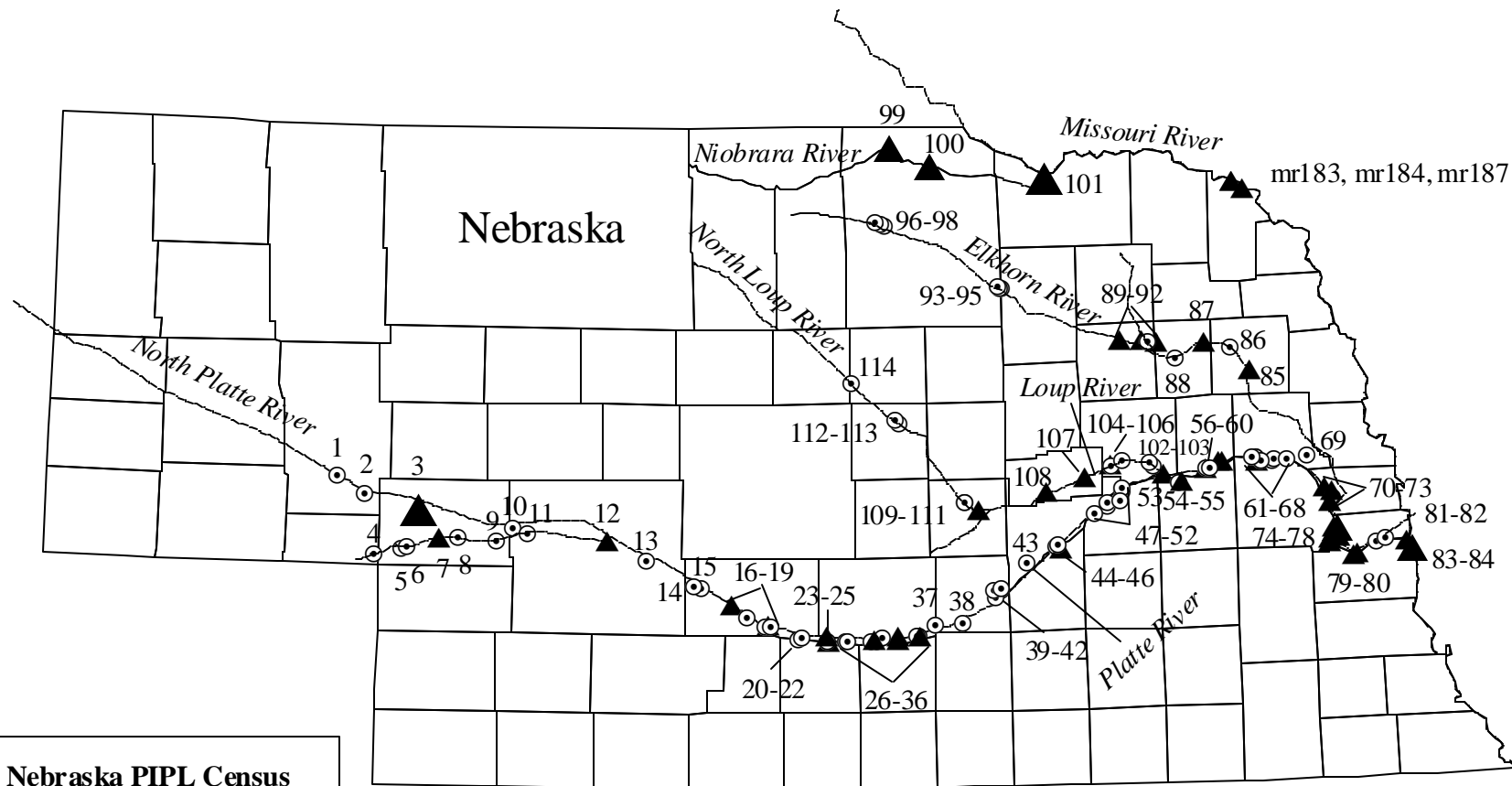
Since all rivers and reservoirs capable of providing suitable sandbar and shoreline habitat for plovers were surveyed by boat, there is little opportunity to overlook nesting birds. Additionally, any new sandpit habitat developed between International Census years is usually identified during our annual surveys and would be included in the sites to check during the next International Census. An area that I believe

warrants survey in the future is the upper portion of the Loup River system, specifically, the North, Middle and South branches upstream of their respective confluences to the point where it becomes obvious that nesting habitat does not exist. There are some past records of nesting on Middle Loup river sandbars and we currently census birds at sandpit sites along the North and Middle Loup rivers.

The survey methodology used in Nebraska is good as long as conditions allow the surveys to be completed in a reasonable amount of time. I feel our counts adequately represent the actual population in Nebraska at that point in time. However, there are times when river flows have delayed or cancelled surveys in certain river reaches. This happened during the 1991 census on the lower Platte. We do not know the location of the birds that typically colonize this stretch of river when flows are lower and nesting sandbars are common.

There are some census protocol issues that need to be addressed among the surveyors in Nebraska. Birds that colonize sand pits utilize the nearby river for foraging. Thus, birds can potentially be observed and recorded during both river and sand pit surveys. To avoid double counting when surveys are conducted on the lower Platte river, we assign birds observed on the river to a sandbar site if nesting is occurring or if suitable nesting habitat is present and the birds are exhibiting breeding behavior. If a bird is observed along the river and there is no nesting habitat, it is designated a "floater", unless there is a sandpit colony within 1 mile. If a sand pit colony occurs within 1 mile, then this bird(s) is assumed to be part of that colony and would be included in the sand pit total and is not included in the river count. After reviewing the data sheets for Nebraska, I am not sure if all observers are following this procedure for recording birds but that will be addressed prior to the next survey.

2001 International Piping Plover Breeding Census - Nebraska -



Nebraska PIPL Census

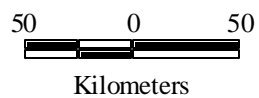
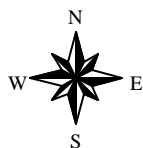
○ 0 Birds

▲ 1 - 10 Birds

▲ 11 - 30 Birds

▲ 31 - 100 Birds

mr Missouri River site



The 2001 International Piping Plover Breeding Census in Nebraska

COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Antelope/Madison	Elkhorn River, North Fork Elkhorn Mouth to South Fork Elkhorn Mouth	92	6/14	0	9	80.6	V D 4	n.r.	Yes	Yes	p
Boyd/Holt	Niobrara River, Spencer Dam to Keya MHA River Mouth	100	6/06	9	27	32.3	V D 4	V D 4	Yes	Yes	n.r.
Boyd/Holt/Rock/ Keya Paha/Brown	Niobrara River, Keya Paha River Mouth to Norden	99	6/05	12	28	82.7	V D 4	V D 4	Yes	Yes	p
Buffalo	Central Platte River, Broadfoot East	31	6/19	0	0	1.2	III C 1,10,15		Yes	Yes	p
Buffalo	Central Platte River, Broadfoot's North of Minden	32	6/19	0	1	3.2	III C 1,10,15	III C 1,10	No	Yes	p
Buffalo	Central Platte River, Broadfoot's West	30	6/19	2	3	2.4	III C 1,10,15	III C 1	Yes	Yes	p
Buffalo	Central Platte River, Bruner's Pit	37	6/19	0	0	1.6	III C 1,15		No	No	p
Buffalo	Central Platte River, Elm Creek-Paulson/Blue Hole	25	6/12	3	6	n.r.	III C 12,15	n.r.	Yes	Yes	p
Buffalo	Central Platte River, Grandpa's Pit	29	6/19	0	0	2.0	III C 1,10,15		No	Yes	p
Buffalo	Central Platte River, Kearney Bridge West	28	6/19	0	0	0.2	III C 1,15		No	Yes	p
Buffalo	Central Platte River, Minden T&F	33	6/20	1	1	0.8	III C 1,10,15	III C 10	No	No	p
Buffalo	Central Platte River, Sandy Channels/Johnson Pit	24	6/12	2	4	n.r.	III C 15	III C 15	No	Yes	p
Buffalo	Central Platte River, T&F Elm Creek Pit	23	6/11	0	0	n.r.	III C 15		No	Yes	n.r.
Butler	Lower Platte River, Bellwood Pit	54	6/15	0	0	n.r.	III C 1,10		Yes	Yes	p
Butler	Lower Platte River, New Bellwood	55	6/15	1	2	0.9	III C 1	III C 1	No	No	p
Cass	Lower Platte River, Cullum (New Pit)	82	6/21	0	0	0.8	III C 1		Yes	Yes	p
Cass/Sarpy	Lower Platte River, Plattsmouth Pit	83	6/21	1	1	1.0	III C 1	III C 1	Yes	Yes	p
Cass/Sarpy	Lower Platte River, Plattsmouth to Salt Creek Mouth	84	6/20	5	12	41.9	V D 1	V D 1	Yes	Yes	p
Colfax	Lower Platte River, Arps East Pit	60	6/08	1	2	1.6	III F 1,10	III F 1	Yes	Yes	p
Colfax	Lower Platte River, Arps Pit	58	6/13	0	0	0.8	III C 10		Yes	Yes	p
Colfax	Lower Platte River, Arps West Pit	56	6/08	0	0	n.r.	III C 1		No	No	p
Colfax	Lower Platte River, Kroeger Pit	59	6/15	1	1	n.r.	III C 1	III C 1	No	No	p
Colfax	Lower Platte River, Will Pit	57	6/08	1	2	1.6	III C 1,10	III C 1	Yes	Yes	p
Cuming	Elkhorn River, Stalp (S&G)	86	6/13	0	0	2.4	III C 1,15		Yes	Yes	p
Cuming	Elkhorn River, West Point (Stalp)	85	6/13	1	2	2.5	III C 1,10,15	III C 1	Yes	Yes	p
Dawson	Central Platte River, Lexington Pit	19	6/12	3	8	n.r.	III C 15	III C 15	Yes	Yes	p
Dawson	Central Platte River, Overton	22	6/12	0	0	n.r.	III C 15		Yes	Yes	p
Dawson	Central Platte River, Paulson Pit-Lexington	20	6/12	0	0	n.r.	III C 10,15		Yes	Yes	p
Dawson	Upper Platte River, Darr Pit	17	n.r.	0	0	0.8	III C 1		No	Yes	p
Dawson	Upper Platte River, Kirkpatrick's Sandpit	14	6/12	0	0	3.2	III C 1		Yes	Yes	p

The 2001 International Piping Plover Breeding Census in Nebraska (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Dawson	Upper Platte River, Kochs South-Cozad Pit	16	6/12	2	4	1.6	III C 1	III C 1	Yes	Yes	p
Dawson	Upper Platte River, Overton S&G, Lexington Pit	18	6/12	0	0	n.r.	III C 15		Yes	Yes	p
Dawson	Upper Platte River, Potter Pond	15	6/12	0	0	0.8	III C 1		Yes	Yes	p
Devel	South Platte River, Big Springs Gravel Pit	4	6/11	0	0	n.r.	III C 1		No	Yes	p
Dixon	Missouri River Mile 765.0	mr187	6/22	2	4	0.2	V D 4,14	V D 4	Yes	Yes	p
Dixon	Missouri River Mile 769.8	mr184	6/22	1	2	0.8	V A 1	V A 1	Yes	Yes	p
Dixon	Missouri River Mile 769.9	mr183	6/22	0	2	0.2	V A 1	V A 1	Yes	Yes	p
Dodge	Lower Platte River, Ames Pit	68	6/08	0	0	0.2	III F 1,2,10		Yes	Yes	p
Dodge	Lower Platte River, Lux S&G	61	6/08	0	0	0.4	III F 1,2,10		No	Yes	p
Dodge	Lower Platte River, Lyman-Richie Fremont	69	6/18	0	0	0.2	III C 1		No	No	p
Dodge	Lower Platte River, North Bend Golf Course	62	6/15	0	0	0.8	III C 1		No	No	p
Douglas	Lower Platte River, All Spec Pit	73	6/18	1	2	2.0	III C 1,10	III C 1	No	Yes	p
Douglas	Lower Platte River, Ginger Cove Pit	70	6/18	2	3	3.0	III C 1,10	III C 1	Yes	Yes	p
Douglas	Lower Platte River, Mallard Pit at Valley	71	6/18	1	2	0.6	III C 1,10	III C 1,10	No	No	p
Douglas	Lower Platte River, Valley Pit	72	6/18	0	0	0.9	III C 1		Yes	Yes	p
Douglas	Lower Platte River, Western Fremont Pit	63	6/12	0	0	0.8	III F 1,10		Yes	Yes	p
Garden	North Platte River, Lewellen Gravel Pit	2	6/11	0	0	n.r.	III C 1,15		No	Yes	p
Garden	North Platte River, Oshkosh Gravel Pit	1	6/11	0	0	n.r.	III C 1,15		No	Yes	p
Hall	Central Platte River, Grand Island	41	6/21	0	0	3.2	III C 1,10,15		Yes	No	p
Hall	Central Platte River, Hooker Brothers	40	6/21	0	0	0.4	III C 1,15		Yes	Yes	p
Hall	Central Platte River, Hooker S&G	42	6/21	0	0	1.2	III C 1,15		No	Yes	p
Hall	Central Platte River, Island S&G	39	6/21	0	0	0.4	III C 1		No	Yes	p
Hall	Central Platte River, Lilley's in Prosser	38	6/21	0	0	2.4	III C 1,10,15		No	No	p
Hall	Central Platte River, Trust Pit	35	6/21	0	0	0.2	III C 10,15		Yes	Yes	p
Hall	Central Platte River, Werner's/Wild Rose Pit	34	6/21	0	0	1.2	III C 10,15		Yes	Yes	p
Hall/Bufalo/ Dawson/Phelps	Central Platte River, Wood River Mouth to Lexington Bridge	36	6/13	0	3	155.5	V D 4,13	V D 4	Yes	Yes	p
Hamilton	Central Platte River, Central City Bridge	45	6/12	1	1	1.5	III C 1,10	III C 1,10	No	No	p
Holt	Elkhorn River, Atkinson S&G	96	6/05	0	0	0.2	III C 1		No	No	p
Holt	Elkhorn River, Elkhorn Sand & Gravel East	97	6/05	0	0	0.2	III C 1		No	No	p
Holt	Elkhorn River, Elkhorn Sand & Gravel West	98	6/05	0	0	0.2	III C 10		No	No	p
Holt	Elkhorn River, Hinrichson S&G	94	6/05	0	0	0.2	III C 1		No	No	p

The 2001 International Piping Plover Breeding Census in Nebraska (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Holt	Elkhorn River, Pollock Pit	95	6/05	0	0	0.1	III C 1,14		No	Yes	p
Holt	Elkhorn River, Pollock S&G	93	6/05	0	0	0.3	III C 1		No	No	p
Howard	North Loup River, Layer's S&G	110	6/13	0	0	0.2	III C 2,10,15		No	Yes	p
Howard	North Loup River, St. Paul	109	6/13	1	2	0.8	III C 2,10	III C 2,10	No	Yes	p
Howard	North Loup River, Tri-County S&G	111	6/13	0	0	0.5	III C 2,15		No	Yes	p
Howard/Nance/Merrick	Loup River, Loup Diversion to North Loup Mouth	108	6/11	2	10	54.8	V A 4	V A 4	Yes	Yes	p
Keith	North Platte River, Lake McConaughy	3	6/11	37	73	51.6	VIII A 1,6	VIII A 1,6	Yes	Yes	s(p)
Keith	South Platte River, Brule Sand Pit	6	6/11	0	0	n.r.	III C 1,15		No	Yes	p
Keith	South Platte River, Brule to Roscoe	5	6/11	0	0	25.8	V D 4		No	Yes	s(p)/p
Keith	South Platte River, Ogallala Ready Mix/Paulson's S&G	7	6/11	1	2	n.r.	III A 15	III A 15	No	No	p
Keith	South Platte River, Paxton Pit	9	6/11	0	0	n.r.	III C 15		No	No	p
Keith	South Platte River, Roscoe Gravel Pit	8	6/11	0	0	n.r.	III C 1,15		No	Yes	p
Knox/Boyd/Holt	Niobrara River, Mouth to Spencer Dam	101	6/07	14	32	62.9	V D 4	V D 4	Yes	Yes	p
Lincoln	South Platte River, Sutherland Gravel Pit	11	6/11	0	0	n.r.	III C 1,15		No	Yes	p
Lincoln	South Platte River, Whitney S&G	10	6/11	0	0	n.r.	V A 12,15		No	No	p
Lincoln	Upper Platte River, Lexington Bridge to N. Platte Diversion	12	6/12	0	1	1.6	V C 1,4	n.r.	Yes	Yes	s(p)
Lincoln	Upper Platte River, Maxwell Pit	13	6/12	0	0	0.2	III C 10		Yes	Yes	n.r.
Loup	Calamus Reservoir	114	n.r.	0	0	n.r.	n.r.		No	Yes	s(p)
Madison	Elkhorn River, Central S&G, Norfolk	91	6/13	3	4	1.4	III C 1,10,11,15	III C 1,11	No	Yes	p
Madison	Elkhorn River, Pilger S&G, Norfolk	90	6/05	0	0	1.2	III F 1,10		Yes	Yes	p
Merrick	Central Platte River, Grigsby Pit	44	6/12	0	0	0.6	III C 1		No	No	p
Merrick	Central Platte River, Knight Asphalt S&G	43	6/21	0	0	1.6	III C 1,10		No	Yes	p
Merrick	Central Platte River, Vipperman Pit	46	6/21	0	0	1.6	III C 10		Yes	Yes	p
Nance	Loup River, Loup Diversion	107	6/07	2	5	1.6	V A 15	V A 15	Yes	Yes	n.r.
Phelps	Central Platte River, Odessa T&F	27	6/12	0	0	n.r.	III C 15		No	Yes	p
Phelps	Central Platte River, Odessa Wells	26	6/12	0	0	n.r.	III C 15		No	Yes	n.r.
Phelps	Central Platte River, Steeles S&G	21	6/12	0	0	n.r.	III C 15		No	No	p
Platte	Loup River, Central Sand & Gravel (Genoa)	106	6/12	1	2	1.6	III A 15	III A 15	Yes	Yes	p
Platte	Loup River, Central Sand & Gravel (Oceana Pit)	103	6/12	0	0	3.2	III C 15		Yes	Yes	p
Platte	Loup River, Columbus #71	102	6/11	0	0	0.4	III A 1,15		No	No	p
Platte	Loup River, Monroe	104	6/12	0	0	0.5	III A 10,15		Yes	No	p

The 2001 International Piping Plover Breeding Census in Nebraska (Continued)

COUNTY	SITE NAME	MAP#	DATE	BR PRS	TOT AD	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENS	96 CENS	OWN
Platte	Loup River, Sempek	105	6/12	0	0	0.1	III C 1,15		No	No	p
Platte	Lower Platte River, Columbus Pit	64	6/15	0	0	0.2	III C 1,10		Yes	Yes	p
Platte/Hamilton/ Merrick/Polk	Central Platte River, Loup River Mouth to Wood R. Mouth	50	6/05	0	0	82.9	V D 4		Yes	Yes	p
Platte/Nance	Loup River, Mouth to Loup Diversion	53	6/08	2	4	53.2	V A 4	V A 4	Yes	Yes	p
Platter	Central Platte River, Silver Creek to Blue Chip	52	6/07	0	0	0.5	III F 10		No	Yes	p
Polk	Central Platte River, Chuckles Pit	47	6/11	0	0	0.8	III A 1,10		No	No	p
Polk	Central Platte River, Duncan Pit (Johnson S&G)	49	6/11	0	0	0.8	III F 1,10		No	Yes	p
Polk	Central Platte River, Heron Point Pit	51	6/07	0	0	1.6	III C 1,10		No	No	p
Polk	Central Platte River, Lucky Pit	48	6/11	0	0	0.8	III F 1,10		No	No	p
Sarpy	Lower Platte River, Gretna Pit	76	6/19	2	3	1.5	III C 1	III C 1	Yes	Yes	p
Sarpy	Lower Platte River, Mallard S&G Pit	81	6/17	0	0	n.r.	III C 1		Yes	Yes	p
Sarpy	Lower Platte River, Western S&G at Louisville Pit	80	6/22	1	1	0.4	III C 1	III C 1	Yes	Yes	p
Sarpy/Saunders/Dodge/ Colfax/Douglas/Platte	Lower Platte River, Elkhorn R. Mouth to Loup R. Mouth	74	6/15	7	21	112.6	V D 4	V D 4	Yes	Yes	p
Saunders	Lower Platte River, Bluff Pit	67	6/14	0	0	0.2	III C 1,10		Yes	Yes	p
Saunders	Lower Platte River, Bluff Pit West	66	6/14	0	0	0.3	III C 1		No	No	p
Saunders	Lower Platte River, Dolezal Pit East	65	6/14	1	1	0.5	III C 1	III C 1	No	No	p
Saunders	Lower Platte River, Lyman-Richie Ashland	78	6/18	1	1	2.0	III C 1,10	III C 1	No	No	p
Saunders	Lower Platte River, Salt Creek Mouth to Elkhorn River Mouth (Floaters)	79	6/20	1	2	11.3	V D 4	V D 4	Yes	Yes	n.r.
Saunders	Lower Platte River, Western North Pit	75	6/18	2	4	4.0	III C 1	III C 1	Yes	Yes	p
Saunders	Lower Platte River, Western South Pit	77	6/11	1	2	0.5	III C 1	III C 1	Yes	Yes	p
Stanton	Elkhorn River, Pilger S&G, Pilger	87	6/05	1	3	0.8	III F 1,10,15	III F 10	Yes	Yes	p
Stanton	Elkhorn River, Quality Sand & Gravel	88	6/05	0	0	0.2	III F 15		Yes	Yes	p
Valley	North Loup River, Ulrich S&G (east)	112	6/13	0	0	0.5	III C 2,10,15		Yes	Yes	p
Valley	North Loup River, Ulrich S&G (west)	113	6/13	0	0	0.3	III C 2,10,15		Yes	Yes	p
Washington/Douglas/Sarpy/ Stanton/Dodge/Cuming	Elkhorn River, Mouth to North Fork Elkhorn River Mouth	89	6/14	0	3	148.4	V D 4	V D 4	Yes	Yes	p
Total	(all Nebraska)			133	308	1080.9					
	<i>(Missouri River subtotals)</i>			<i>(3)</i>	<i>(8)</i>	<i>(1.0)</i>					

n.r. = not reported

mr = Missouri River site

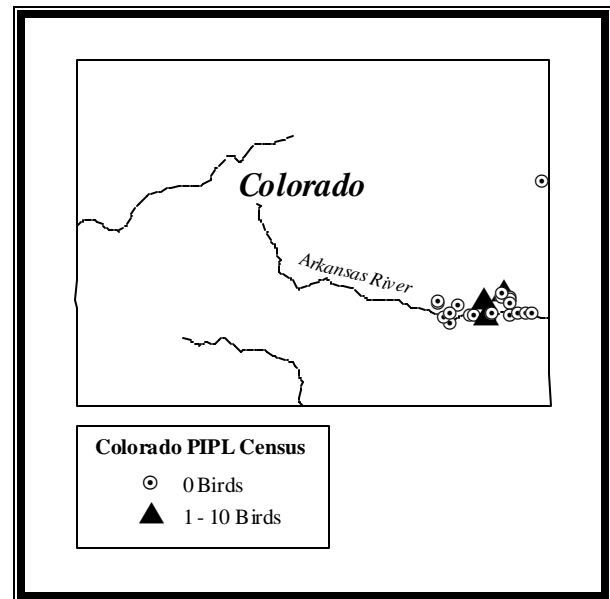
The 2001 International Piping Plover Breeding Census in Colorado

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I believe the 2001 census results adequately represent the population of Piping Plovers in Colorado. We focused on areas where Piping Plovers have been seen in the breeding season and had historically occupied territories. Coverage was expanded to include all major reservoirs in southeast Colorado, the only region of Colorado where Piping Plovers are known to nest. Because our habitat at each nest site can change drastically from year to year, lakes were inventoried despite unfavorable conditions at some sites in 2001. Once again we also visited sites on the Arkansas River that were close to known reservoir territories. Bonny Reservoir was added because staging birds were seen there in April, but by May all the plovers had departed.

Reservoirs in northeast Colorado were not censused because no plovers were seen there in 1991 or 1996 and there have been no nesting reports since 1949. Furthermore, birders and biologists in that part of the state would notify us if any plovers were discovered there.

Colorado's nesting population suffered a blow in 1995 when hail killed at least two nesting females. In 1996, only one female bird nested and successfully fledged three young on her third nest attempt. The population rose to three pairs in 1997, but two females were lost to hail around hatch dates at Nee Noshe Reservoir.



Only one pair nested in 1998, presumably the same female from the 1996 nest, and all nest attempts failed. That was the low point for plovers in Colorado. In 1999, our first "recruit" from another population, a female, successfully fledged 4 young, adding genetic variability to our population. The population then reached 4 pairs in 2000 (fledging 5 young) and 5 pairs in 2001, fledging a total of 7 young from three successful nests. One female, at Nee Noshe Reservoir, was banded.

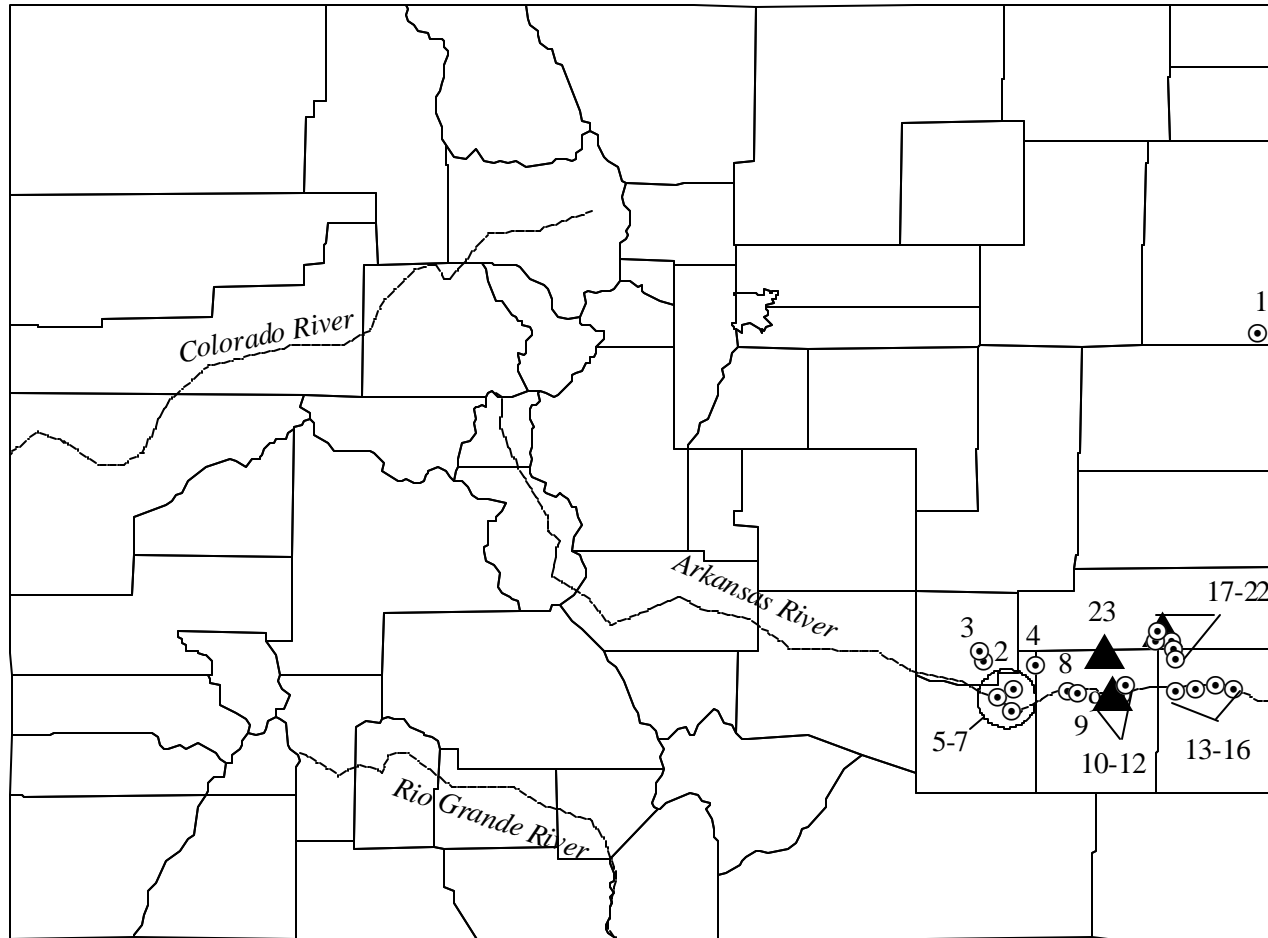
Lack of success in Colorado is due to a number of factors. Unbalanced sex ratios have limited the reproductive capacity of plovers in Colorado. Weather has also played a factor in both nesting success and survival. Violent storms, which included hail, have occurred during the nesting season for the past several years. Depredation is also a major reason for nest loss and cattle grazing can harm habitat and/or nests. Finally, human disturbance continues to be a problem on certain sites.

Apart from known nest sites, Piping Plovers are still exceptionally rare in Colorado. At least six migrant plovers were seen in April and May in Colorado, more than in all previous years combined. These sightings, as well as the recruitment of outside females in 1999 and 2001 demonstrate that Colorado is more than an

isolated, peripheral nesting colony. One of the migrant plovers was banded at Lake Diefenbaker, Saskatchewan.

While the prognosis for plovers in Colorado is brighter than it has been since 1994, it is still far from secure.

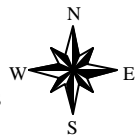
2001 International Piping Plover Breeding Census - Colorado -



Colorado PIPL Census

○ 0 Birds

▲ 1 - 10 Birds



100 0 100



Kilometers

The 2001 International Piping Plover Breeding Census in Colorado

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Bent	Arkansas River (Hasty to Bent County Rd. 30)	12	6/17	0	0	11.3	V A,E 10,13		Yes	Yes	p
Bent	John Martin Reservoir	10	6/13	4	10	19.4	VIII A,E 1,6,10,13	VIII A,E 1,6,10,13	Yes	Yes	f/s(p)
Bent	Las Animas (Bridge over US 50)	8	6/20	0	0	1.6	V A 10		Yes	Yes	p
Bent	Prowers Bridge	9	6/17	0	0	1.6	V A 10		Yes	Yes	p
Bent	Verhoeff Reservoir #1	11	6/15	0	0	1.6	IV,VIII A,E 6,14		No	No	p
Bent/Kiowa	Adobe Creek Reservoir	23	6/23	0	1	8.1	VIII A,E 1,4,14	VIII A,E 1,4,14	Yes	Yes	s(p)/p
Crowley	Lake Henry	2	6/20	0	0	3.2	VIII A 10		No	No	s(p)
Crowley	Lake Meredith	3	6/20	0	0	1.6	VIII A 10		No	No	s(p)/p
Kiowa	Nee Grande Reservoir	22	6/15	0	0	12.9	VIII A 10		Yes	Yes	s(p)/p
Kiowa	Nee Noshe Reservoir	21	6/28	1	2	12.9	VIII A 1,14	VIII A 1,14	Yes	Yes	f/s(p)/p
Kiowa	Neesopah Reservoir	20	6/15	0	0	3.2	VIII A 10,14		No	No	s(p)/p
Kiowa	Queens (Neeskah) Reservoir, upper and lower	19	6/15	0	0	4.8	VIII A 1,10		Yes	Yes	s(p)/p
Kiowa/Otero	Timber Lake (Horse Creek Reservoir)	4	6/14	0	0	4.8	VIII A 10,14		Yes	Yes	s(p)/p
Otero	Holbrook Reservoir	6	6/20	0	0	4.8	VIII A 10		Unk	Unk	s(p)/p
Otero	Lake Cheraw	5	6/20	0	0	4.8	IV,VIII A,E 10,14		Yes	Yes	s(p)/p
Otero	North La Junta Bridge	7	6/20	0	0	1.6	V A 1,10		Yes	Yes	p
Prowers	CR 13 Bridge (Arkansas River)	14	6/14	0	0	1.6	V A 10,13		Yes	Yes	p
Prowers	CR 19 Bridge (Arkansas River at Carlton)	15	6/14	0	0	1.6	V A 10		Yes	Yes	p
Prowers	King Reservoir	18	6/16	0	0	3.2	IV A 14		No	No	p
Prowers	Lamar Bridge (Arkansas River at US 50)	13	6/14	0	0	1.6	V A 1,10		Yes	Yes	p
Prowers	Thurston Reservoir	17	6/16	0	0	4.8	VIII A 10,14		No	No	s(p)/p
Prowers	US 385 Bridge (Arkansas River at Granada)	16	6/14	0	0	1.6	V A 10		Yes	Yes	p
Yuma	Bonny Reservoir	1	5/07	0	0	9.7	VIII A 1		No	No	s(p)
Total				5	13	122.6					

unk = unknown

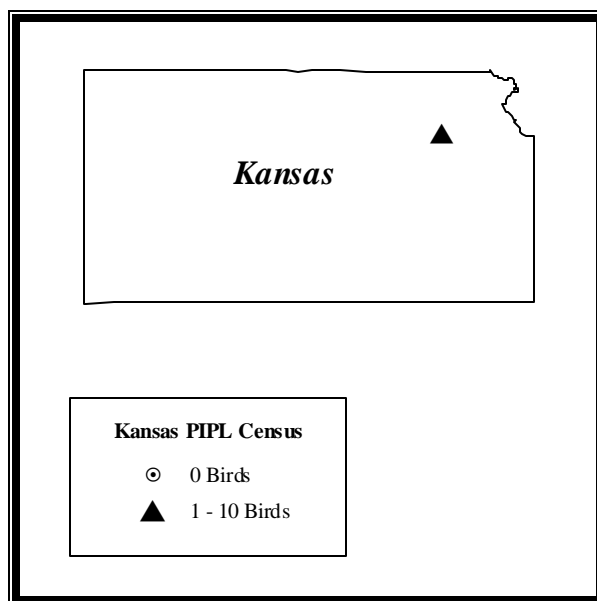
The 2001 International Piping Plover Breeding Census in Kansas

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This is the first “official” Piping Plover breeding census Kansas has conducted. Our total number of adults observed in the past 4 years has ranged from 1 to 6, so this is an average year (3 adults).

For the past 2-3 years, there have been half a dozen sites where Piping Plovers have attempted to breed. Two such sites were censused this year. Plovers occupied one of these, the Belvue Colony site for a brief time. However, within two days of this year’s census, the Kansas River rose five feet and did not subside before the end of the census window. Therefore, other Piping Plover breeding sites visited had no suitable habitat. So while the June 4th census sampled approximately one third of the habitat suitable on that date, there was no suitable habitat for censusing later in the survey period.

Census conditions and adequacy of coverage

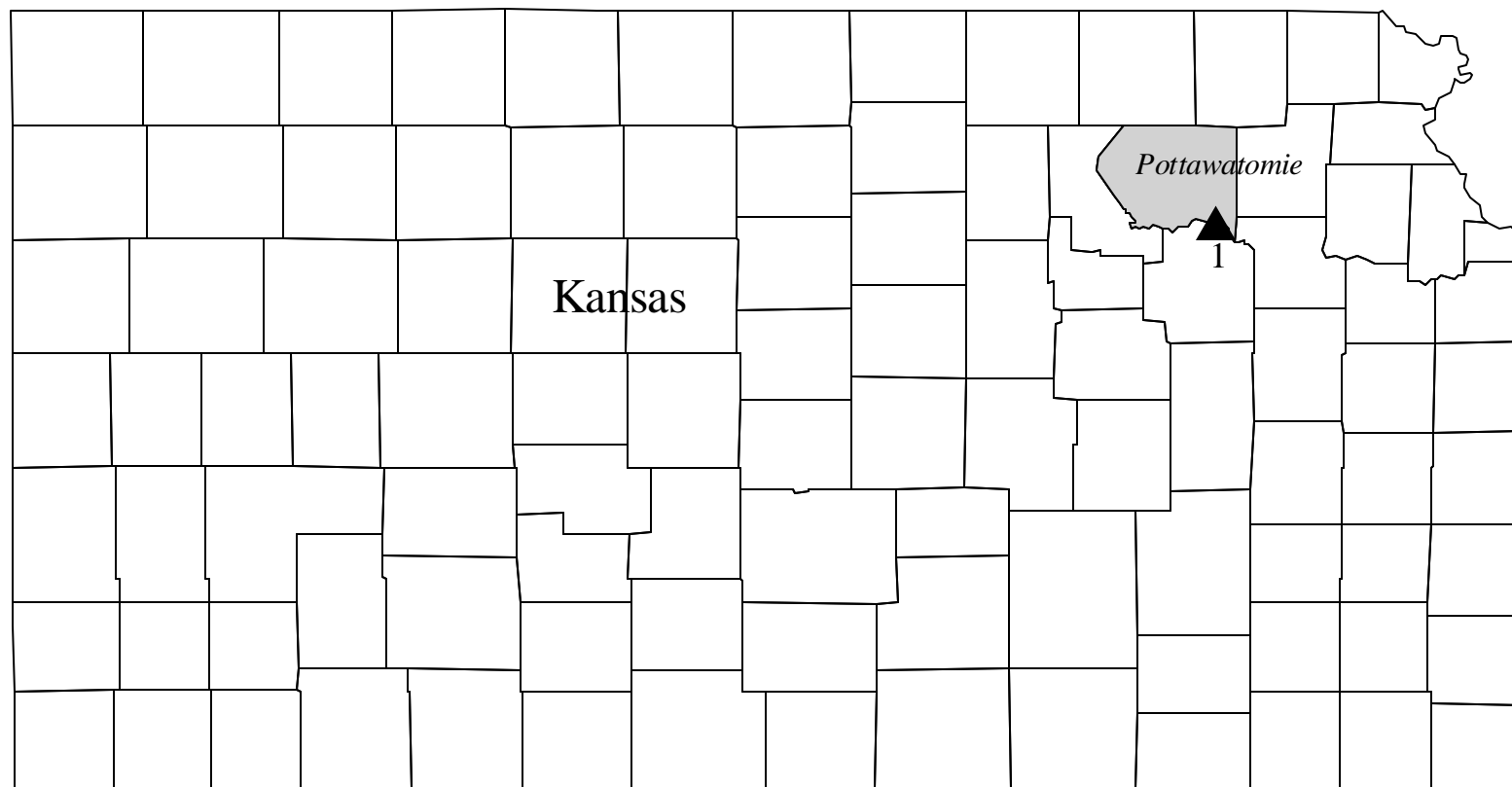


this year were not at all representative, so there could have been other Piping Plovers which were not observed in the 2-3 days of the census period prior to conditions deteriorating completely.

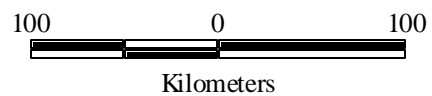
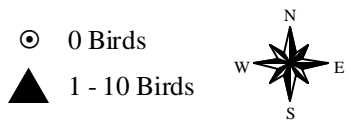
We typically use an airboat to survey for both terns and plovers on at least 60 miles of the Kansas River during June-July. We did not have the airboat out during the census window because the weather was so inclement and there was no exposed suitable habitat. These additional miles of river should be included in the survey if conditions are suitable in 2006.

The stage (height) of the Kansas River during early June is affected by: (a) releases from Corps of Engineers reservoirs, and (b) uncontrolled runoff (significant) in the basin.

2001 International Piping Plover Breeding Census - Kansas -



Kansas PIPL Census



The 2001 International Piping Plover Breeding Census in Kansas

COUNTY	SITE NAME	MAP#	DATE	BR PAIRS	TOTAL ADULTS	KM	SITE DESCRIPTION	PIPL HABITAT	91 CENSUS	96 CENSUS	OWNER
Pottawatomie	Belvue Colony Site (Least Tern)	1	6/04	2	3	1.6	V D 4	V D 4	No	No	s(p)
Total				2	3	1.6					

APPENDIX A

Key to 2001 Database Variables

Results tabulated in this report represent a sampling of data collected during the 2001 census. Listed below are explanations for the variables presented. Variables not shown include: site location information (latitude/longitude); additional days censuses were carried out at specific sites; number of hours spent censusing; weather and tide variables; site ownership; method of transportation; criteria that were used to determine breeding pairs; percent of habitat covered; presence of banded or injured birds; and names/number of censusers. Contact Susan Haig, Forest and Rangeland Ecosystem Science Center, Corvallis, OR 97331; susan_haig@usgs.gov for additional information.

Site Description Variables:

Water Body –

- I. Ocean
- II. Protected Bay, Cove, Harbor, Lagoon
- III. Other
- IV. Alkali Lake
- V. River
- VI. Freshwater Lake
- VII. Industrial Lake
- VIII. Reservoir

Shoreline –

- A. Mainland
- B. Barrier Island
- C. Spoil Island
- D. Bar
- E. Other Island
- F. Other
- G. Dry Lake Bed

Description (Substrate) –

- 1. Sand Beach
- 2. Sand Spit
- 3. Sand Flat
- 4. Sand Bar
- 5. Salt Flat
- 6. Gravel Shore
- 7. Oyster Reef
- 8. Mudflat
- 9. Vegetation (algal) Mat
- 10. Vegetated Shoreline
- 11. Other
- 12. Sand Dune
- 13. Gravel Bar
- 14. Silt
- 15. Gravel Pit
- 16. Alkali Mudflat

Site Ownership Variables:

- c** – County
- f** – Federal
- m** – Municipal
- n.r.** – Not reported
- p** – Private
- s(p)** – State(Provincial)
- t** – Tribal

Other variables:

Map # - Reference for associated map

Br Pairs – Breeding pairs = Sum (paired individuals plus single birds with nest or young)

Total Adults – Sum (unpaired birds seen + 2*pairs)

Km – Kilometers surveyed

Site Description –Habitat description where surveying occurred (see “Site Desc. Variables”)

PIPL Habitat – Habitat description where birds were observed (see “Site Description Variables”)

1991 Census – Was site surveyed in 1991 census?

1996 Census – Was site surveyed in 1996 census?

Owner – Site ownership

PIPL – Piping Plover

SNPL – Snowy Plover

APPENDIX B

Data Sheets and Guidelines for the 2001 Winter Census

INTERNATIONAL PIPING PLOVER COORDINATION GROUP



GUIDELINES FOR THE 2001 INTERNATIONAL PIPING PLOVER WINTER CENSUS

General Purpose and History: The International Piping Plover Census, as designated by the International Piping Plover Coordination Group, has been established to provide a complete census of all Piping Plover populations on both wintering and breeding grounds every five years. The primary function of the census is to gather data for monitoring moderate-to-long-term population trends that will be used to assess success of recovery efforts and recovery objectives. Census data also provide information on the species' range and use of local habitat and may help elucidate migratory patterns. The first International Census was conducted in 1991. The winter census, conducted in January 1991, included the efforts of 431 individuals in eight states, Puerto Rico, and seven additional countries. Over 3,400 birds were found at 162 sites; however, this total represented only 60% of the number of adults observed on breeding grounds the following June. With some mortality expected between census periods, the wintering sites of more than half the breeding population were not identified in 1991. The second International Census, conducted in 1996, involved over 360 biologists and volunteers throughout the United States, Mexico, the Bahamas, and nations of the Greater Antilles. A total of 2,515 Piping Plovers were tallied by, representing a 27% decrease in winter numbers from 1991. However, results of the breeding census in that same year indicated an overall increase of 7.8% in numbers from 1991 to 1996. The 2001 International Census will expand on previous surveys, providing an even more refined picture of the winter distribution of Piping Plovers. It will also provide the opportunity to synthesize 15-year trends for the species.

Census Dates: Ideally, we would like to have all censuses conducted during the same week across North America, and within a time frame that facilitates comparisons to results obtained in previous surveys. Wherever possible, therefore, we ask that the census be undertaken between **January 29th and February 12th, 2001**. If that is not possible, the weeks prior to that in January are also acceptable. We would appreciate discussing any plans for censuses conducted outside this time period.

Coordination: The 2001 census will be directed from USGS Forest and Rangeland Ecosystem Science Center in Corvallis, Oregon via Susan Haig (541-750-7482, email susan_haig@usgs.gov). She will maintain regular contact with other members of the International Piping Plover Coordination Team. Cheron Ferland (541-750-7390, email: cferland@usgs.gov) will be the primary coordinator for the census. State/Regional Coordinators will organize census activities within each state/country and may designate local contact persons or coordinate all censusers directly. The responsibilities of each participant are outlined below:

1. **Census Coordinator:** Susan Haig will identify State/Regional Coordinators and Cheron Ferland will provide them with census report forms, census summary sheets, and census assessment forms. They will summarize census information and publicize results of both the winter and breeding censuses by Summer 2002. As in previous years, results will be presented in various formats:
 - a technical paper submitted to a scientific journal
 - a detailed report covering each state/province/country for distribution to recovery teams, state/regional coordinators, and other natural resource agencies
 - GIS-based maps and datasets posted on appropriate websites
 - a popular article in a national/international birding magazine

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2. **State Coordinators:** will identify censusers and areas to be surveyed. They will distribute census materials to individual censusers directly or through local contact persons. Note that it may be helpful to enter contact/return mail information into item #15 on the back of the Individual Census Report Forms prior to distribution. Following the census, they will summarize results and provide a brief assessment of the census in their state/region.

Following the completion of the census, Coordinators should send to Cheron Ferland:

- All Individual Census Reports and Maps
- State Summary Sheet
- State Assessment Form

We ask that this information be forwarded to Cheron Ferland by **15 March, 2001**, and that we be informed of any delays as soon as possible. Maps of census sites should be turned in with the census summary. **Each site should contain a reference latitude and longitude (township and range information is not necessary).**

3. **Individual Censusers:** will be given census guidelines and a census report form for each site they are to survey. Multiple individuals are encouraged to conduct censuses together. At least one individual censusing each site should be experienced in identification of shorebirds. Whenever possible, censuses of each site should be completed during one day. Multiple censuses of a site are not encouraged unless the original survey is considered to be inaccurate because of adverse weather conditions, human disturbance, etc. Census reports should be filled out as completely as possible for all censuses at each site and returned to the state/regional coordinator by the specified date. Maps should also be returned to the coordinator with the census area clearly marked and labeled, **including latitude and longitude** of approximate site center. Specific locations where Piping Plovers are observed may also be indicated on the maps. **Census reports and maps should be returned even if no Piping Plovers were observed**

Census methods: We are not providing specific instructions for conducting individual censuses although censusing during high tide often provides easier access to birds. Sites should be delineated based upon geographic features, suitability of habitat for use by Piping Plovers, number of censusers available, and anticipated time necessary to census an area. Sites should be censused by the most effective means possible to ensure thoroughness and accuracy. Avoid conducting surveys during extreme weather conditions. **Please try to minimize disturbance to the birds!**

Census priorities: Ideally, all habitat recently and/or currently suitable for Piping Plovers should be surveyed in 2001. Because of a lack of information about sites or other constraints, however, this goal may not be achievable in some states. To meet census objectives, we therefore suggest the following priorities: 1) Sites that had Piping Plovers present in 1991, 1996, or later. 2) Sites that had suitable Piping Plover habitat in 1991 and 1996. 3) Sites that were unsuitable when censused in 1996 but that have been suitable more recently. 4) Sites not censused in 1996 but that are likely to contain suitable Piping Plover habitat. 5) Sites not censused in 1996 but with historic records of use by Piping Plovers. To most accurately analyze population trends over the past five years, at least the first three priorities need to be met.

Banded Piping Plovers: **Censusers should look for leg bands on birds!** For several years, Piping Plovers have been fitted with aluminum and colored plastic leg bands and flags. Please record all bands observed, being careful to describe colors and positions of bands/flags on each leg.

We thank you for your involvement with the 2001 International Piping Plover Census! Each census is extremely important in allowing us to monitor recovery efforts for this species. Furthermore, your efforts are critical in allowing informed decisions to be made regarding land use and habitat protection for Piping Plovers. Without the help of individuals like you, this necessary data could not be collected.

A black and white illustration of a parent bird, possibly a shorebird, standing next to its small chick. The parent bird has a dark cap and a light-colored body, while the chick is smaller and has a similar pattern. They are standing on a patch of ground with some sparse vegetation.

Please complete this form as thoroughly as possible for each location surveyed, even if Piping Plovers are not found. Attach a map or detailed description of the area censused, **including latitude and longitude of survey area** (approximate site center). Also feel free to attach additional comments. These forms should be sent to your State Coordinator by **March 1, 2001**. Contact your State Coordinator or Cheron Ferland (541-750-7390; cferland@usgs.gov; FAX 541-758-7761) for further information.

- Latitude ___ deg ___ min ___ sec Longitude: ___ deg ___ min ___ sec

Anne Hecht, U.S. Atlantic
U.S. Fish and Wildlife Service
Weir Hill Rd.
Sudbury, MA 01779
anne.hecht@fws.gov

6. Habitat(s) where Snowy Plovers found (use above designations; e.g., IIC8, IIIB9):

Location of Snowy Plovers found (mark on map). If taken, attach GPS readings on another sheet.

Latitude ___ deg ___ min ___ sec Longitude: ___ deg ___ min ___ sec

7. Mode(s) of transportation: Foot ___ Car/Truck ___ ATV ___ Boat ___ Airboat ___
Other _____

8. Habitat (shoreline) covered: _____ km/miles (circle one)
Was census completed for this area? yes ___ no ___ What percentage was missed? _____
What areas were missed? _____

9. Was site censused in 1991? Yes ___ No ___
Was site censused in 1996? Yes ___ No ___
If "yes," how does coverage differ from earlier surveys? _____

10. Were there any circumstances that may have affected census results (weather conditions, human disturbance, etc.)? _____

11. Band combinations of any marked birds (right leg:left leg from top to bottom; note colors, flags or bands, etc.)

12. Describe any apparent injuries of banded or unbanded birds. _____

13. Number of people censusing: _____
Censusers names, affiliations, phone numbers, email, & addresses: (attach additional list if necessary)

14. Additional information/comments: _____

15. Return form and maps to: **State/Regional Coordinator** or _____

**THANKS FOR YOUR HELP WITH THE
2001 INTERNATIONAL PIPING PLOVER CENSUS!!**

APPENDIX C

Data Sheets and Guidelines for the 2001 Breeding Census

INTERNATIONAL PIPING PLOVER COORDINATION GROUP



2001 INTERNATIONAL PIPING PLOVER BREEDING CENSUS Guidelines

General Purpose and History: The International Piping Plover Census, as designated by the International Piping Plover Coordination Group, has been established to provide a complete census of all Piping Plover populations on both wintering and breeding grounds every five years. The 2001 census is the third to be carried out over the past 10 years. The primary function of the census is to gather data for monitoring moderate-to-long-term population trends that will be used to assess success of recovery efforts and recovery objectives. Census data also provide information on the species' range and use of local habitat and may help elucidate migratory patterns. The first International Census, conducted in 1991, provided a population benchmark for the species status and distribution in North America. The breeding census included the efforts of hundreds of individuals in 22 U.S. states, nine Canadian provinces, and the French territory of St. Pierre and Miquelon. During the census period, 5,482 adult Piping Plovers (2,441 pairs) were documented. Subsequently, the 1996 census recorded 5,913 individuals (2,668 breeding pairs), an overall increase of 7.7% from 1991. The 1996 census illustrated some striking regional trends, including a 31% increase in breeding birds along the Atlantic Coast, a 20% increase in the small Great Lakes population, and a 5% decline in the U.S. Great Plains and the Canadian Prairie. The 2001 International Census will complement previous surveys, providing an even more refined picture of the breeding distribution of Piping Plovers. It will also provide the opportunity to assess ten-year trends for the species.

Census Dates: Ideally, we would like to have all censuses conducted during the same two weeks across North America, and within a time frame that facilitates comparisons to results obtained in previous surveys. Wherever possible, therefore, we ask that the census be undertaken between **June 3rd and June 16th, 2001 (except for the Atlantic U.S., which will census from May 26th thru June 3rd)**. If that is not possible, successive weeks in June are also acceptable. We would appreciate discussing any plans for censuses conducted outside this time period.

Coordination: The 2001 census will be directed from USGS Forest and Rangeland Ecosystem Science Center in Corvallis, Oregon via Susan Haig (541-750-7482, email susan_haig@usgs.gov). She will maintain regular contact with other members of the International Piping Plover Coordination Team. Cheron Ferland (541-750-7390, email: cferland@usgs.gov) will be the primary coordinator for the census. State/Provincial Coordinators will organize census activities within each state/province and may designate local contact persons or coordinate all censusers directly. The responsibilities of each participant are outlined below:

1. **Census Coordinator:** Susan Haig will identify State/Provincial Coordinators and Cheron Ferland will provide them with census report forms, summary sheets, and assessment forms. Maps will not be distributed with the census information, as in previous censuses. It will be up to each state/provincial coordinator to submit site map(s) and a complete list of latitude and longitude coordinates for each site censused. Susan and Cheron will summarize census information and publicize results of both the winter and breeding censuses by Summer 2002. As in previous years, results will be presented in various formats:
 - a technical paper submitted to a scientific journal
 - a detailed report covering each state/province/country for distribution to recovery teams, state/provincial coordinators, and other natural resource agencies
 - GIS-based maps and datasets posted on appropriate websites
 - a popular article in a national/international birding magazine

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2. **State/Provincial Coordinators:** will identify censusers and areas to be surveyed. They will distribute census materials to individual censusers directly or through local contact persons. Following the census, they will summarize results and ensure that each site is mapped by latitude and longitude and provide a brief assessment of the census in their state/region.

Following completion of the census, Coordinators should send to Cheron Ferland:

- All Individual Census Reports/Maps
- State Summary Sheet
- State Assessment Form

We ask that this information be forwarded to Cheron Ferland by **August 15th, 2001**, and that we be informed of any delays as soon as possible. Maps of census sites should be turned in with the census summary. **Each site should contain reference latitude and longitude coordinates** (township and range information is not necessary).

3. **Individual Censusers:** will be given census guidelines and a census report form for each site they are to survey. Multiple individuals are encouraged to conduct censuses together. At least one individual censusing each site should be experienced in identification of shorebirds. Whenever possible, censuses of each site should be completed during one day. Multiple censuses of a site are not encouraged unless the original survey is considered to be inaccurate because of adverse weather conditions, human disturbance, etc. Census reports should be filled out as completely as possible for all censuses at each site and returned to the state/provincial coordinator by the specified date. Maps should also be returned to the coordinator with the census area clearly marked and labeled, **including latitude and longitude** of approximate site center. Specific locations where Piping Plovers are observed may also be indicated on maps. **Census reports and maps should be returned even if no Piping Plovers were observed**

Census methods: The goal of the census is to count both breeding pairs and unpaired adults. Pairs should only include birds seen together. Single birds in the presence of nests or young should be tallied separately from other unpaired birds; however, we discourage censusers from searching for nests or young in order to minimize disturbance to breeding sites. We are specifically not addressing issues of reproductive success during this census. We are not providing specific instructions for conducting individual censuses but include the following definitions and suggestions. Sites may include individual wetlands, lakes, or stretches of river or coastline or any portion of the above. Sites should be censused by the most effective means possible. Care should be taken to note where birds have flown to and from in order to avoid double counting. This is especially important because Piping Plovers (in the northern Great Plains and Prairie) often flock when intruders enter a nesting area. Avoid conducting surveys during extreme weather conditions, which not only results in inaccurate census data, but also increases risks of disturbance to the birds. Surveys are best conducted during early morning hours, although we understand that confining censuses to this time period is often unrealistic. Censusers should avoid encroaching on nesting territories when possible and in all cases should limit time spent in any single territory to no more than 5 minutes. Please try to minimize disturbance to the birds!

Census priorities: Ideally, all habitat recently and/or currently suitable for Piping Plovers should be surveyed in 2001. Due to lack of information about sites or other constraints, however, this goal may not be achievable in some states/provinces. To meet census objectives, we therefore suggest the following priorities: 1) Sites that had Piping Plovers present in 1991, 1996 or later. 2) Sites that had suitable Piping Plover habitat in 1991 and 1996. 3) Sites that were unsuitable when censused in 1996 but that have been suitable more recently. 4) Sites not censused in 1996 but that are likely to contain suitable Piping Plover habitat. 5) Sites not censused in 1996 but with historic records of use by Piping Plovers. To most accurately analyze population trends over the past ten years, at least the first three priorities need to be met.

We thank you for your involvement with the 2001 International Piping Plover Census!
Each census is extremely important in allowing us to monitor recovery efforts for this species.

INTERNATIONAL PIPING PLOVER COORDINATION GROUP



2001 INTERNATIONAL PIPING PLOVER BREEDING CENSUS Individual Census Report

Please complete this form as thoroughly as possible for each location surveyed, even if Piping Plovers are not found. Attach a map or detailed description of the area censused, **including latitude and longitude of survey area** (approximate site center). Also feel free to attach additional comments. These forms should be sent to your State/Provincial Coordinator by **July 15, 2001**. For further information, contact your State/Provincial Coordinator or Cheron Ferland @USGS-BRD Forest and Rangeland Ecosystem Science Center, 3200 SW Jefferson Way, Corvallis, OR 97331 USA; 541-750-7390; cferland@usgs.gov; FAX 541-758-7761.

1. Total # of pairs of Piping Plovers seen: _____
Pair criteria used (check all that apply):
Courtship behavior _____ Pair at nest _____ Birds located together _____
Joint defensive behavior _____ Pair with young _____ Other (describe) _____
2. Total # of unpaired adults: with nest/young: _____ no nest/young seen _____
3. Census Location:
Local name of site: _____

County: _____ State/Province: _____

Latitude: __ deg __ min __ sec Longitude: ___ deg __ min __ sec (approx. center of site)
River Miles (Missouri, Niobrara, and Platte Rivers only): _____
Map(s) (USGS topo quad; atlas/gazetteer grid #; etc.): _____

Land Ownership: Federal _____ State/Provincial _____ Municipal _____ Private _____
4. Date of census: _____ Time census conducted: _____ to _____
5. Conditions:
Tide stage(s): Low _____ Mid _____ High _____ (Rising _____ / Falling _____)
General weather: Sunny _____ Partly cloudy _____ Overcast _____ Rain _____ Fog _____ Other _____
Approximate temperature: _____ Celsius/Fahrenheit (circle one)
Wind speed: _____ km/hr miles/hr (circle one) Wind direction: _____
6. Habitat censused (check as many as apply):

Body of Water: **I.** Ocean _____ **II.** Protected bay, harbor, cove, lagoon _____ **III.** River _____
IV. Alkali lake/pond _____ **V.** Natural freshwater lake _____ **VI.** Reservoir _____
VII. Industrial Pond _____ **VIII.** Other (describe) _____

Shoreline: **A.** Mainland _____ **B.** Barrier island _____ **C.** Spoil island _____ **D.** Bar _____
E. Other island _____ **F.** Dry lake bed _____ **G.** Other (describe) _____

Substrate(s): **1.** Sand beach _____ **2.** Sand spit _____ **3.** Sand dune _____ **4.** Sand bar _____
5. Silt _____ **6.** Gravel shore _____ **7.** Gravel bar _____ **8.** Gravel pit _____
9. Vegetated shoreline _____ **10.** Alkali mudflat _____ **11.** Coastal mudflat _____
12. Other (describe) _____

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7. Habitat(s) where Piping Plovers found (use above designations; e.g., IIC8, IIIB9):

8. Mode(s) of transportation: Foot ___ Car/Truck ___ ATV ___ Boat ___ Airboat ___
Other _____
9. Linear Habitat (shoreline) covered: _____ km/miles (circle one)
Was census completed for this area? yes ___ no ___ What percentage was missed? _____
What areas were missed? _____
10. Was site censused in 1991? Yes ___ No ___
Was site censused in 1996? Yes ___ No ___
If "yes," how does coverage differ from earlier surveys? _____

11. Were there any circumstances that may have affected census results (weather conditions, human disturbance, etc.)?

12. Band combinations of any marked birds (right leg:left leg from top to bottom; note colors, flags or bands, etc.)

13. Describe any apparent injuries of banded or unbanded birds. _____

14. Number of people censusing: _____
Censusers names, affiliations, phone numbers, email, & addresses: (attach additional list if necessary)

15. Additional information/comments: _____

16. Return form and maps to: **State/Provincial Coordinator** or **Cheron Ferland**

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**THANKS FOR YOUR HELP WITH THE
2001 INTERNATIONAL PIPING PLOVER CENSUS!!**

APPENDIX D

List of Cooperating Agencies and Organizations

Academic Institutions

Augustana University College
Baker University
Coastal Carolina Community College
College of William & Mary
Instituto de Ecología y Sistem, Cuba
Iowa State University
Mississippi State University
Monmouth University
University of Minnesota
University of North Carolina, Wilmington

Federal

Canadian Wildlife Service
Parks Canada
U.S. Bureau of Land Management
National Park Service
U.S. Army Corps of Engineers
U.S. Coast Guard Training Center
U.S. Fish & Wildlife Service
U.S. Geological Survey

State/Provincial

Alabama Wildlife & Freshwater Fisheries
Alberta Environmental Protection Services
Alberta Fish & Wildlife
Alberta Natural Resources Service
Colorado Division of Wildlife
Connecticut DEP Wildlife Division
Delaware Division of Fish and Wildlife
Georgia Department of Natural Resources
Iowa Department of Natural Resources
Louisiana Department of Wildlife & Fisheries
Maine Dept of Inland Fisheries and Wildlife
Manitoba Department of Natural Resources
Maryland Department of Natural Resources
Massachusetts Fish and Wildlife
Minnesota Department of Natural Resources
Nebraska Game and Parks Commission
New Hampshire Fish and Game Department
New Jersey Division of Fish and Wildlife

New York State Dept. of Environmental Conservation
Newfoundland Dept. Forest Resources & Agrifoods, Endangered Species and Biodiversity Section
North Carolina Wildlife Resources Commission
North Dakota Game and Fisheries Department
Nova Scotia Department of Natural Resources
Ontario Ministry of Natural Resources
Ontario Provincial Terrestrial Assessment Program
Prince Edward Island Department of Fish, Aquatics & Environment
Rhode Island Division of Fish & Wildlife
Saskatchewan Dept. of Environment & Resource Management
South Carolina Department of Natural Resources
South Dakota Game, Fish & Parks Department
Virginia Dept. of Game and Inland Fisheries
Wisconsin Department of Natural Resources

Non-profit Organizations

Alberta Conservation Association
Bird Studies Canada
Conserve Wildlife Foundation
Ducks Unlimited - Canada
National Audubon Society
Regina Natural History Society
Southwest Naturalists
The Krusos Foundation, Inc.
The Nature Conservancy
Weyburn Nature Society
Whitefish Point Observatory
Alberta Environment
Bald Head Island Conservancy
Ducks Unlimited
Maine Audubon Society
Manitoba Conservation
Nature Saskatchewan
Prince Edward Island Nature Trust

Private Business

Birds Eye View Consulting
Central Nebraska Public Power & Irrigation
CZR Incorporated
Nebraska Public Power District
SaskPower Corporation
Transgas